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[For the American Bee Journal.]

Novice.

DEAR JOURNAL:—Owing to the protracted drouth, we have not got our ten acre farm in condition for planting the basswood orchard, and may not now until spring, as we have decided to thoroughly underdrain, subsoil, and manure it.

We are going to set the trees twelve feet apart, and thin out when too crowded. We shall raise hoed crops on the land for the first two or three years, to ensure thorough cultivation. As many prominent horticulturists are taking quite an interest in the project, we are going to try and guard against failure, if possible.

Our opinion is, that Mr. Price is totally wrong in the position which he so persistently adheres to; and if he has himself turned over our former articles, he should know that we purchased from Mr. Grimm, the twenty-five queens, almost solely to replace those whose progeny were too nearly black bees. See vol. vi, page 78. And, further, several of our dark, artificial hybrids that we discarded, were so much more prolific than the pure ones from Mr. Grimm, that we have sincerely regretted killing them; and shall, in future, save extra prolific queens, even if only one-banded.

Mr. Grimm raises queens in small nucleus boxes, we think. Will he tell us where he gets his queen cells? and will he also tell us whether he agrees with Mr. Price's position? We should agree with Mr. Quinby exactly, who has given his views at length, and his practical experience in the matter has been considerable. Both natural and artificial queens are, like Mr. Price's, sometimes poor, especially when raised out of the swarming season, and when an abundant supply of food is not coming in, or some of the other requisites are wanting. Some of our very best queens have been raised with less than a pint of bees; but we find it more difficult, with so few, to secure all other requisite conditions.

The questions on page 116, are all answered, we think, some of them at great length too, in back numbers of the Journal; but we will briefly go over them here, and sum up.

1st. Twenty of the forty-six queens were raised after the loss of our only pure queen, by cutting the brood combs, or those having eggs and unsealed larvæ, into pieces about one by two inches. These were put in hives containing empty combs, and set in place of each of our weak eleven remaining stocks. Extra cells were cut out and put in nuclei made from the old stocks, still further reduced for the purpose. All this was done in the swarming season, and the twenty queens raised were all good prolific ones, although the returning bees, in some cases, gathered around the small piece of brood comb, were not over a teacupful.

Of course we had no known pure queen after this to get brood from, and were obliged to use brood from some of the twenty—intending to replace them, if too dark. Many of these were only one-fourth Italian; and slicing off the drones' heads last year, gave us more hybrids again, as many of the original eleven queens were then replaced.

The twenty-five queens from Mr. Grimm were ordered to replace the poorest, and to have pure stock to rear from next spring.

2d. Our hives are shaded by grape-vines, trained on the plan of "*Fuller's Grape Culturist.*"

3d. We always paint our hives white, and hire a painter to do it.

4th. About the Peabody Extractor. Our assistant says she thinks it turns a trifle harder than our old home made one, the case of which does not revolve; but it is simpler, neater, more convenient, and much more durable. After a good deal of study on the matter, we think, all things considered, that we should prefer the Peabody to any we have seen.

Remember, you asked a delicate question, as we have advertised them; but we have tried to make the answer honest.

Three of the Grimm queens ceased laying gradually, when less than a year old—something we have seldom, if ever, seen in our own, or those from Mr. Langstroth; and we are going to purchase a queen of Mr. Langstroth, to raise our queens from, next season, Providence permitting.

Hoping to meet all our friends at the Convention in Cleveland, we are, as ever,

NOVICE.

INDIGO, bound dry on the wound, is a sure cure for rattlesnake bites, scorpion and bee-stings, &c., says a Mormon who has tried it.

[For the American Bee Journal.]

Essay on Queen Raising.

By ELISHA GALLUP.

Read before the Michigan Beekeepers' Association, September 29, 1871.

In natural queen raising, the cell is built and the egg deposited therein, and not the cell built around the egg, as some assert.

The first requisites in natural queen raising, or natural swarming, are: warm weather, abundance of forage, and a large stock of bees. We find that queens raised under such circumstances, are almost invariably large and prolific, and if we examine the cells, we find that the larva is supplied with an abundance of food—floating in it in fact. And there is a mass of this food still left, when the young queen leaves the cell at maturity; a mass not unfrequently as large as a common marrowfat pea. Nearly the reverse of all this is true, in raising forced or artificial queens. These are mostly raised in small nuclei, containing comparatively few nursing bees, or bees capable of preparing the necessary food; for it requires *young* bees to prepare this food. The consequence is, the larva is supplied with an insufficient quantity of food; and if we examine we shall find that not more of it is furnished than is actually consumed—there is none left in the cell when the queen leaves. You will probably say that if she is fed just enough, she must be just as perfect as one that receives a superabundance. But we must bear in mind that the nymph or chrysalis is continually drawing in moisture through the pores of her abdomen from the mass of food, up to the time of her maturity, when we find the mess dried up; whereas before maturity it is still moist. The queen raised under all these favorable circumstances will almost invariably be large, prolific, and long-lived. We have, in fact, had them at the age of four years as prolific, to all appearance, as they were the first season. A queen so raised will be full sixteen days coming to maturity, from the time the egg is deposited in the cell. Queens raised in small nuclei, with insufficient food, or in insufficient quantity, &c., are imperfect and not long lived.

We have never been able to discover any difference between artificial and natural queens, when they were properly raised. To explain this so as to be understood, we will give the right conditions and the wrong conditions. We deprive a small and a strong stock of their queens, in the height of the breeding season. They have large quantities of eggs, larvæ in all stages, nursing bees, &c. They are also gathering forage in abundance, and consequently the nursing bees are preparing large quantities of food for the larvæ. Under these favorable circumstances they almost invariably commence from the larvæ just hatched, feed abundance of food, and there is an abundance of warmth. Consequently we have just as good queens, prolific, long-lived, &c., as any natural queens can be. Remember, I am not here writing theory, for I have been a close observer on this very subject, during the past eighteen years. On the other hand we have a strong stock of bees that have lost their queen, and before we discover the loss, the brood is all hatched out. They have now no larvæ to nurse, and are consequently preparing no food for any. We give them a card of brood from which to raise queens, and they will almost invariably select larvæ from three to five days old to rear queens from. But suppose they should select one just hatched, it will be fed on an insufficient quantity of food, and is consequently imperfect. The warmth in such a colony, through the inactivity of the bees, is not near as great as it is in one where all branches of industry, such as nursing, gathering, &c., are carried on at the same time. Queens raised from larvæ which hatch in eight days, die of old age in from ten to twelve weeks; those hatched in ten days are worthless in eighteen months; and those hatched in small nuclei, with insufficient food and warmth, although they may be twenty-four days in hatching, are worthless too.

To sum up. The conclusion is—Raise your queens in strong stocks, which have abundance of eggs, larvæ, nursing bees, &c.; and if they are not gathering forage abundantly at the time, supply them regularly and artificially, and they will be all right. After the cells are sealed, we can transfer them to nuclei or queen cages. But nucleus hives should be kept strong in bees, and receive abundance of food, in order to keep up the proper temperature. Recollect that I have never said that all artificial queens are worthless. But a large proportion are, as they are usually raised. Mr. Langstroth, Mrs. Tupper, and some few others, take particular pains to state that they raise all their queens in full colonies. We will venture the assertion from our own experience, that a large proportion of the queens sent out by Tom, Dick, and Harry, have either been superseded or are worthless, at the end of eighteen months.

The next question is, how to raise pure Italian queens; and here we shall in all probability tread on somebody's corns. There are all manner of dodges got up by queen breeders, to account for their impure queens. Some assert that the pure Italians are a cross themselves. Some assert that three-striped workers are a test of purity. Some say that we can test their purity by taking them to a glass window. Some allege that the queens must be all light colored, &c., &c. We were among the latter class two years ago; but our views have been somewhat changed since then. Our Durham cattle were not started from pure Durhams. Now if our Italian bees were started from black hornets, and have been bred up to their present standard, until they have become a fixed breed, and have thus continued to be a fixed type, breed, or race for hundreds of years in their native country, Italy, why can they not be bred in this country just as well as in Europe, and just as pure? These are questions for our consideration. What are the characteristics of the imported Italians—that is, those imported directly from Italy? The queens are almost invariably dark colored; some of them almost black; or of a dark rich golden or leather color. The workers are three-striped,

rather darkish in color, considerably so when compared with our Americanized Italians. Their abdomens are long, tapering, and they carry them well up on a level. The queens are extra prolific, almost invariably. The drones are, as a rule, smaller and very dark colored; in fact seem almost coal black and glossy a little way off. But if we examine them closely, we see their color tinged with a dark orange hue; and scarcely any hair on their abdomen visible to the naked eye. Our Americanized Italian queens on the other hand, are a light yellow, and not very prolific. The workers are a light yellow, and if they come up to the standard, very light colored. The abdomen is not so long and taper as that of the pure Italian brought from Italy; and when they are fanning in front of their hives, there appears to be a sort of joint in the abdomen. When we come to the Americanized drone, we have an extra large hairy fellow. Some of them very bright yellow, and of different shades of color, &c., &c.

Now, we will start with a pure imported Italian queen. We raise queens from her, and they are fertilized with black drones. Yet some of them produce all three-striped workers. We select such to breed from, and we have the Americanized Italian. Now we keep selecting the lightest colored and largest drones, &c. (This is about the way it is done.)

Again, we start with a black or common queen. She mates with an Italian drone; and then we breed from this queen up to the fourth generation, and all her successors mate with Italian drones, and we again have the Americanized Italian to perfection.

All this is done by accepting three-striped workers, and selecting the lightest colored queens, and rejecting the dark colored ones. We have at present in our yard two queens that are admired by visitors as models of purity. Yet we know that their grandmothers were raised from an impure mother, and fertilized by a black drone. Still the workers from those two queens are perfect Americanized Italians; and nine out of every ten visitors select these two stocks as perfectly pure. The fact is, the American bee-keeping public will not, as a rule, accept a really pure queen to breed from. I could relate some curious facts about some of our American queen breeders, but will not at present do so. For the past two seasons I have rejected extra light colored queens, and all queens that produce extra light colored, large, hairy drones, as breeders; and it is the first time in nine years that I have met with any satisfactory results. I am now satisfied with the same colored queens, drones, and workers, as we get direct from Italy. I am also satisfied that the Italians can be raised here, as well as in Italy. Why do they not deteriorate, or turn back to the blacks, in that country, if they are not now a fixed race?

It is rather curious, and sometimes laughable, to read the statements of our queen breeders. Some assert that only a very small portion of queens raised are fit to breed from; and yet they do not give any reason why it is so. Now, it certainly seems to me that if the queen is an imported one, and all her successors mate with pure drones, all ought to be fit to breed from, so far as race is concerned. But if the position I have taken is correct—that is, that our queen breeders will not breed from pure queens, but rather from Americanized ones, as our friend Dadant calls them, or mules, as our friend Gardner denominates them, then there is nothing strange in the alleged fact that a large proportion of the queens raised show the black blood, and that quite *distinctly*. The cross has been so recent that there is no fixed type or character to the breed. But we must not attribute all this to the breeder; for in hundreds of cases the customer is not satisfied with a pure Italian queen. None other than an Americanized one will suit their taste or fancy. I know of several cases where pure queens have been returned or rejected, and the parties have come to me with their complaint; and I have recommended the complainant to apply to another breeder, who raises mules, and they were perfectly satisfied.

[For the American Bee Journal.]

Rearing Queens.

For the last four years I have been more less extensively engaged in rearing Italian queens; and during that time have experimented somewhat with different methods—always aiming at rearing fine large queens cheaply, and have finally hit upon the following arrangement, which is entirely satisfactory to me; and I can see no way that queens can be reared and fertilized at less cost.

I make small frame hives or nuclei of two stories high, the upper story projecting out over the lower, so as exclude the rain. The bottom is nailed on to the lower story, while the upper has neither bottom nor top, being covered by a plain board laid on, with a weight upon it to keep it in place. Four small frames containing combs are suspended in the usual way in the lower story, with an entrance on one side, and a feed trough on the opposite. Across the top of the frames are laid four strips about one-fourth of an inch square, and on these strips are placed six cages two inches cubic, the four sides being of wood (thin), the bottom wire cloth, and the top glass, laid on with listing between, to prevent the escape of heat. A one-inch thick piece of sponge one and a half inches long, is secured in one corner, hanging downward.

When it is time to commence operations, I remove the queens from strong stocks, to get queen cells. When these are eight days old, I get common bees from a distance, and give to each nucleus hive a little more than a quart of bees. Two days latter I remove my queen cells and give each nucleus in the lower story a sealed cell nearly ready to hatch. I then fill the sponges in the cages with honey, and into one corner of each cage I attach a sealed queen cell by means of melted wax; and then put in a lot of bees—fifty or more, probably—to take care of the cell and the young queen when she hatches.

All being finished, the cages are set closely together on the strips over the frames, wire cloth side down—the six cages just covering the top of

the lower story, thus preventing the escape of animal heat from below, and it all passes up through the wire cloth into the cages, to help keep up a proper temperature for the young queens. By lifting off the cover from the upper story, and looking down through the glass tops of the cages, we are able to see at a glance which of the queens have hatched each day, and record the same on the under side of the cover.

When the queen in the lower story has hatched and become fertile, she is removed, and the oldest one in the cages is let down, and when this one is fertilized she is taken out, and the next oldest let down, and so on.

By opening these hives about three o'clock in the afternoon, on pleasant days, we can usually find the visible signs of connection on the queen, and remove her at once.

G. W. P. JERRARD.

Levant, Me., Nov., 1871.

[For the American Bee Journal.]

Foulbrood.

DEAR JOURNAL:—I am almost afraid of wearing out my welcome by appealing so often to you, especially on the same subject; but you know it is natural to be garrulous on that topic in which one is most interested.

Last year I was almost discouraged by the rapid and destructive spread of foulbrood in my little apiary; but this year it has been a pleasure, rather than a sorrow, to watch and control it.

Only a few of those treated last year with sulphite of soda or chloride of soda and lime, as conducted then, with honey and pollen remaining in the combs, proved to be permanently cured, when brood was raised in the spring, although all trace of the disease had been removed in the fall, and the combs continued through the winter to be *apparently* healthy.

All colonies (with the exception of one which contracted the disease in the fall) that were treated in the early summer, according to Quinby, remain free from disease to this day. In fact one of these has been my best, giving me two early swarms, which, with the original hive, have yielded one hundred and one pounds of box honey, and ninety-five pounds of extracted, leaving in each hive about thirty-five pounds for winter.

The season being somewhat earlier than usual, the hives were removed to their summer stands, from the best of all bee houses, the "Novice," early in March, and all those which were diseased the fall previous were placed a few rods away from the others, in a lot surrounded on three sides by a very high board fence, with a barn and the out-buildings connected forming the fourth, and separating it from the apiary. This was the hospital yard, and the seclusion proved sufficient protection, as there has been no case of contagion this year in the apiary, which now numbers eighteen colonies.

Is it not a fact that bees, unless greatly demoralized, have little inclination to rob out of their own enclosure?

This summer's experiments have been to test cures in two ways. One by pruning, the other by emptying the comb with the "Peabody," and disinfecting them before restoring them to the bees again. The bees themselves, of course, were shut up and made to consume all the diseased honey which they carried with them.

First pruning. Early in March I removed the bees from two infected hives to healthy ones which were well supplied with stores; but from having lost their queens were nearly tenantless. Now after one of these had become well filled with brood, a part of the frames were removed to strengthen a weak colony, making three hives which were occupied more or less with brood from the transferred stocks. All these were found diseased in April. How did this happen, when the bees had been confined without food for nearly two days before they were given to healthy combs? Probably forty-eight hours in their sluggish state, in the cool weather of March, is not time enough for the consumption of the diseased supply. One hive was so badly diseased that pruning was useless. The other two were so slightly affected that I determined to prune, removing the first row of healthy cells around those diseased, and to this day they are perfectly healthy. One of them was prevented from swarming by cutting out queen cells, and the other threw off a large swarm during the summer.

The others, with two more as badly diseased, were treated as follows: All the honey was extracted, the combs washed in clean water, and then immersed for a few hours in a solution of chloride of lime, after all the cells which had contained disease had been washed out with either sulphite of soda or chloride of soda, then washed out again with clean water, immersing them and emptying with my "Peabody." In this way two were perfectly cured, and remain so. In the third, the disease slowly reappeared, and after it had made a good headway, the queen was removed and given to a healthy colony. (I have frequently done it with impunity), the brood allowed to hatch, while a new queen was raised, and as soon as she began to lay, the colony was shaken into an empty hive on the old stand, and confined for a day and a half. Meanwhile all the putrid larvæ was removed from the combs by the atomizer and water, and all the honey removed by the extractor. The combs, after being washed in clean water, were immersed for a night in a solution of caustic acid, washed again in water, and given to the swarm. The disease reappeared in less than three weeks in two out of the six combs. On the supposition that this occurred only in cells not thoroughly disinfected, and that the contagion had not been spread through the hive, I concluded to prune. All the disease was carefully removed, and now six weeks afterwards, there has been no new invasion, and to all appearance it is healthy.

I consider my apiary pure, and the hospital without a case, and if next spring it continues so, I shall try various experiments to recreate the disease.

I still have two hives testing the time cure. One with honey and disease undisturbed, the

other with combs emptied of their contents and washed with clean water. They will be furnished with colonies next spring, and placed on the sick list in the hospital.

Although the experiments have not been as complete and varied as I could have wished, owing to the almost complete occupation of my time by other duties, I have, however, done enough to satisfy myself that the following memoranda, which I have noted in my apiary book, are correct.

1st. If foulbrood is discovered very early, and there are only a few cells affected, prune, and spray with a solution of sulphite of soda. Prune for a week or two, as often as fresh disease is discovered, but if it reappears in the next crop of brood in any quantity over four or six cells, condemn the colony to be treated, if sufficiently early in the season, according to Quinby, as a new swarm.

2d. If early in the season, and the disease is not too far advanced to prune, or pruning is ineffectual, treat according to Quinby, for although the combs can be cleansed and disinfected, so as to be safely used again, the trouble of doing it, and the danger of doing it carelessly, is so great that the advantage is in favor of treating it as a new swarm and feeding back the purified honey, to stimulate the making of new combs.

3d. If discovered in the fall or too late in the season for treatment No. 1, or No. 2, empty all the diseased cells with the atomizer and a solution of sulphite of soda (two ounces to a tumbler of water), return the combs and honey undisturbed, and if there is any evidence of disease in the spring, treat as circumstances require, either by No. 1 or No. 2.

E. P. Abbe.

New Bedford, Oct. 15, 1871.

☞ Treating foulbrood colonies as new swarms is by no means a reliable method, especially when the disease has assumed a malignant type. It has been practiced by the Germans many years before movable comb hives were introduced, sometimes successfully, but more generally unsuccessfully, even in early stages of the disease. Dzierzon tested it very thoroughly when the malady devastated his apiary, but found it entirely unserviceable.

[For the American Bee Journal.]

Queen Progeny of a Failing Queen.

Novice desires to know if queens raised from queens that are failing in prolificness, would be prolific or not? and requests *facts*. I comply with his desire by making the following statement:

In August, 1870, I had a queen that failed to lay, and was superseded. When she began to fail I took out one frame of brood and eggs and placed it in an empty hive, with one frame of honey; put in enough of young bees and old to cover the frames well; fed sweetened water, and got four queen cells. I took three out and put them in a queen nursery, which through carelessness were lost. The one left in hatched and in due time the queen mated with an Italian drone. I gave them one full frame of brood, and one half full of comb and honey. They filled up to eight frames, and came out all right through the winter, except some mouldy combs. I gave them two frames of honey, and in a month another. By the last of April every frame was full of brood and uncapped honey. I put on an upper story containing two combs of drone cells. At the end of May, she had filled top and bottom. I took out five frames of brood, looked well over them for queen cells, but saw none. In —— days after this she came off with an enormous swarm. I took out a frame of brood and gave it to them. In two weeks they filled up the six centre frames full of brood and eggs. The third week I raised them to the upper story, which they also filled. What troubled me most, she was so prolific it was all brood and no honey. I took them out of the two-story hive, and put them in one two feet wide, putting on at the same time four 15 lb. boxes. I took from them also four frames of brood to strengthen up others. The following is the amount of honey and brood taken from them:

4 frames full of brood.		
12 " " honey, ...	96 lbs.	
4 boxes " "	60	
		156

Old hive.

8 frames of brood.		
4 " honey, ...	32 lbs.	
Machine honey, taken at seven times, say an average of 30 lbs.,	210	
		242
Total, ...		398 lbs.

Doubting Thomas may question the above. I cannot help that. *Natural* queen raisers may do the same. I have a dozen queens, raised this year, just as good.

I forgot to state that the old hive is a two-story, which is now full, top and bottom. It could easily spare fifty pounds of comb honey.

F. Crathorn.

Bethlehem, Iowa, Oct. 12, 1871.

☞ Please send us the full report for 1871.

[For the American Bee Journal.]

Foulbrood.

Mr. Editor:—In July, 1870, I had five strong stocks, from two in the spring. The last of August found me with most of the brood dead. The combs were made into beeswax. In September, the three hives nearest, six or eight feet distant, showed a few cells of dead brood, say five to twenty in a comb. The last of May, 1871, two of these, with from one-half to nine-tenths of the brood dead, were driven out, the hives closed, and put up chamber. The fourth, with say one-eighth of the brood dead, was driven out June 29th, and the hive put up chamber. The fifth swarmed June 24th, and the swarm went to the woods. The old stock showed some signs

of foulbrood in August. In September, after repeatedly sending by porter to Green Bay and Buffalo for hyposulphite of soda, without success, I wrote to a druggist at Green Bay, and found they had always kept it, at thirty-five cents a pound. Having sent to Dr. Abbe in the spring for an atomizer, which cost five dollars and somewhat less than a dollar postage, say six dollars, I tried it (the hyposulphite) on part of the brood combs; but as it was cool weather, and the bees had quit raising brood for the season, they were rather slow in cleaning out the dead brood: and as there was plenty of honey sealed over in the presence of the disease, and I did not wish to extend my experience in 1871, they were brimstoned September 23d; and so closed the record of the five stocks of 1870, but not quite of my bees.

The swarm of June 24th came out in the afternoon, lit and waited till 4 o'clock P. M., and my wife notified me as they were off for the woods southeast, through bushes 15 to 30 feet high. I followed by the noise, and losing that, kept my course by the sun. After eighty rods came within hearing, and found them entering a pine tree thirty inches in diameter, the hole being about twenty-five feet from the ground, and an inch in diameter. It followed a knot slanting downward six inches, to the top of the hollow; and about four feet below was another hole made by ants—giving a fair chance for upward ventilation. Before dark that day the tree was down and sawed three times off, and next morning before breakfast the swarm was on the old stand, with a good comb of brood from the old stock, which has been removed to a new place.

The three stocks put in empty hive in May and June were transferred to one hive on the 1st of August, and filled it on basswood blossoms, gathering as fast as a new swarm. The hive, with frames, was baked over the stove, being raised an inch or more on blocks, to prevent the bottom of the hive from burning. It was heated till the resin started on the outside (process not patented).

These two stocks have showed no signs of foulbrood. They were carefully examined September 25th. The brood had all left the cells, and they were well filled with bees. They weighed forty-three pounds each, net; and allowing ten pounds for bees, combs, &c., had thirty-three pounds of honey, each.

My record for two years gives, for 1870, with two hives in the spring and twenty combs, three hundred pounds of honey, worth ninety dollars. For 1871, forty pounds of extracted honey, and twenty pounds of honey in the comb, worth twenty dollars. Thus making for the two years, one hundred and ten (110) dollars, less the empty combs. Thirty-six empty combs were made into beeswax, for fear of keeping foulbrood. A few healthy combs would be worth more than a dollar each, in an ordinary season. There were six days in June, and nine days in August on basswood blossoms, that a stock made more than one pound surplus per day, requiring fifteen days to lay in a year's supply for 1871.

HENRY D. MINER.

Washington Harbor, Wis., Sept. 28, 1871.

[For the American Bee Journal.]

How Foulbrood Spreads.

It may be spread by young bees entering the wrong hive on their first flight, before they are old enough to gather honey. As young queens sometimes enter the wrong hive, on returning from their wedding flight, so may young workers.

A hive of mine was lost by foulbrood in August, 1870, and in September the three nearest hives, six or eight feet distant, had foulbrood. There were no signs of robbing. It might have been carried in by the bad air from the diseased hive.

That young bees are not destroyed by other bees in the breeding season, I infer, because I have taken combs from several hives into a shop to extract honey, shaking off the bees into a large pan. The old bees flew out through the window to their homes; the young bees, remaining in the pan, were taken out, emptied before my hive, and always peaceably received. Drones may also enter other hives, without molestation.

The last of June, 1871, a stock with one-fourth of the brood dead, was driven into an empty hive. The old hive, with wire cloth fastened over the entrance, was put up chamber, and a swarm of young bees hatched out, without any old bees to brood them. To save these, I concluded to put them in an empty box for three or four days, and then give them to another hive. I put a piece of comb with eggs in the box, so they could raise a queen; took them over half a mile through the woods one day, to where I was hoeing potatoes; shook and brushed them off before the box, fastened the old hive tight and took it home. The next morning they flew lively, but towards noon became more quiet. I raised the box and saw two or three bees on the comb—all that remained of one or two quarts of young bees, that had never been an inch from their hive before. They had found friends to pilot them to a better home.

H. D. MINER.

Washington Harbor, Wis., Oct. 25, 1871.

[For the American Bee Journal.]

Kentucky and Tennessee Beekeepers.

MR. EDITOR:—As we have just returned home from Tennessee, having been on a tour of *inspection* among the beekeepers of Kentucky and Tennessee, we thought it likely that a few lines regarding our visit to some of the largest and best conducted apiaries in the United States, might be of interest to the readers of the American Bee Journal. We left home August 3d, for Lowell, Garrard county, Kentucky, the home of R. M. Argo, known to all beekeepers throughout the United States, and to some of those in Europe. We found him at home, awaiting our arrival. After spending a pleasant night, resting our weary bones, we were the next morning shown through the apiary by friend Argo and his son. Just here, let us say to the boys, that Willie Argo is one of America's best beekeepers, and will one day make his mark among the apiculturists of this country. He is only twelve

years old, and to see him among the bees, helping his father, would make many a *professed* bee-keeper ashamed of himself. We were shown many, yes, very many fine colonies, and in fine condition, considering the dry weather and early frost in Garrard county. We were shown several fine imported queens. Fine queens were boxed and shipped each day we were there, and orders continued to come in from every quarter of the United States and from Canada. Let us here state what I evidently believe to be true, that R. M. Argo is one of the most reliable and *conscientious* men we ever met or dealt with. Never, no, never would he send out a queen without first seeing her progeny, that he might know that she was purely fertilized. If such were ever the case, it could only be through some mistake, to which we are all liable sometimes. And I may here say, that some of our largest queen raisers are making entirely too *many mistakes* of this kind; and we fear some of them do so willingly. Yes, we believe there are not a few who do not care, so they get your money. We are sorry that this is so; but when numbers of our Kentucky apiarians tell us that they have each tried Mr. ———, and Mr. ———, and that three out of five of the queens received were hybrids, or produced hybrids, we are justified in making the statement we have. And we will further state, that no man who has from three to eight hundred colonies of bees to look after, can do them justice, and rear *pure* queens for sale.* One hundred and fifty to two hundred colonies are all that *one man* can manage *successfully*, and rear queens *safely;* and he will then have to employ help during the swarming season. But we will return again to our subject. After spending several days with friend Argo and family, very pleasantly and profitably, we took the train for Richmond, (Ky.,) to attend the fair, commencing August 8 h. We there met and made the acquaintance of some of Madison county's best beekeepers. Among them were W. C. Peyton, Dr. W. H. Hogan, W. M. Thomas, and T. J. Gordon, all live apiarians, seeking to attain the topmost round in the ladder of apiarian science. After spending several days, looking at some of the finest stock, and talking bee until everything around began to buzz, we took the stage for Lexington, twenty-five miles distant, and had a glorious hot and dusty ride. On arriving, we took Paddy's trotters, and made for Mr. M. T. Scott's, partner of Dr. John Dillard, in apiculture. Mr. Scott lives about three-fourths of a mile from the city. We were received very pleasantly, indeed, by Mr. S., took a look through his apiary, and found everything in apple pie order, the apiary consisting of about two hundred colonies. Owing to the death of a neighbor's child, Mr. Scott was not able to show us many of his fine queens. This is one of the apiaries that Kentucky can brag on; and two more congenial, well posted apiarians cannot be found. Be it remembered, that Dr. Dillard is President of the Apiarian Society. He is not only a big man in size, but he is a giant in intellect, both in physic and apiculture. We shall have more to say about him hereafter. Through the kindness of Mr. Scott, we got a good saddle horse and away we went, out to Mr. Burbank's. Mr. B. lives about two miles from the city. We arrived there well soaked with rain; and a great blessing was the rain to that country at that time, though we did get wet. We were received cordially, and by a good fire I soon felt all right again. After talking with Mr. B. until a late hour, we retired, and slept off some of the jolts we had received in a miserable stage coach. Next morning, Mr. B. showed us through his large and well arranged apiary of two hundred or more colonies. It is, indeed, beautiful to behold, situated as it is, in such lovely grounds, well shaded, to protect both the colonies and the operator from the extreme heat of the sun. Among other improvements shown us by Mr. B. was his improved hive, which has some excellent points, especially the arrangement for ventilation. After taking a thorough look, and learning all we could, Mr. B. took us to the city in his rockaway. There we met with Dr. Dillard, of whom we have already spoken. The Doctor is, indeed, one of Kentucky's big sons, weighing *only* two hundred and sixty pounds, and he has a soul as large as his body. Should any of my readers ever be so lucky as to meet the Doctor, they will find all we have said to be true, and, more too. We went out with him to his brother's (where he was boarding), and remained over Sabbath. On Monday, we returned to the city, and it being court day, we there met a large number of Fayette county's best bee-keepers, and with Mr. Burbank, we talked bee, beehive, and melextractor all the day, for Mr. B. had one of Grey & Winder's extractors on exhibition in the court house yard.

At four P. M. we took the train for Cynthiana, Harrison county, the home of Mr. Henry Nesbit. Arriving there, we found that friend Nesbit lived some two miles in the country. We took a carryall and went out, arriving in time for tea (something we always aim to do, so as not to miss our grub), and we indeed fared sumptuously, for if any Kentucky lady knows how to fix up things to eat, it is Miss Nesbit, for we must tell you, that friend Henry is a widower; and though such is the case, you will see no bachelor doings around him.

We had long wished to visit the apiary of America's bee-king, and were determined to do so this trip. He is, indeed, entitled to the name, and any one that visits his apiary will say as we have said—"behold the ingenuity of man!" His arrangements are perfect in all their parts. The tasteful arrangement of his hives; the way they are painted and shaded; his arrangements for raising queens; his winter quarters for his colonies—all, yes, everything is as near perfection as well could be. He showed us through very many colonies, and we saw some as fine queens as man

* We cannot concur in these views. A bee-keeper, possessing the requisite qualifications, and who has made the necessary arrangements for business, can manage a thousand colonies of bees for queen raising and connected purposes, just as efficiently, though certainly not as easily, as a hundred. Of course, such a man will supply himself at the proper time with the necessary help and other appliances.—[Ed.

ever looked upon. Quite a number were late importations from sunny Italy, imported direct by himself.

After remaining several days with friend Nesbit, he took us over into Bourbon county, to see the apiary of Dr. J. J. Adair, near Shawhan Station, on the Lexington and Covington railroad. We found the Doctor a very sociable man, indeed, and full of bee talk. He has an apiary of about one hundred and seventy-five colonies; and here we found the greatest variety of hives we ever saw collected together in one apiary. We soon found that the Doctor's attention was too much engaged with his farm and fine stock to give his bees the necessary attention. He was about the first man in Kentucky that bought an Italian queen. After being there a short time, we found ourselves out of order from over-eating, and had to call on the Doctor for a narcotic, which he administered, greatly to our relief; but we found we should be unable to return with friend Nesbit, so bidding him farewell, we remained with Dr. A. over night, and next morning took the train for Lexington, and thence to Eminence, Henry county, to attend the fair commencing there on the 22d of August.

There we met Dr. C. Bright, and Dr. L. E. Brown, both of whom are well posted beekeepers. Dr. Bright takes a great interest in apiculture, his mind being entirely engrossed with physic and bees. He has a splendid apiary of pure Italians, his stock being principally derived from Mr. Langstroth and Mr. Burbank. He informed us that it is impossible for him to supply the demand for Italian colonies. Dr. Brown has short horn cattle, Berkshire hogs, Southdown and Cotswold sheep, as well as Italian bees on the brain, and if he does not let some of them lose their short horns or their yellow bands, it will be curious to us. He says his bees are doing well, and told us that from one colony of Italians, which he bought last spring was a year, he now has twenty-eight colonies, and hundreds of pounds of surplus honey. We say, go it, Doctor.

After spending several days looking at the fine stock of which Henry county can boast, we took the omnibus for Shelbyville, where the fair commenced on the 28th. There we met many and dear friends, for it was in this (Shelby) county that we were born and raised. It was here that we first took lessons in beeculture, in 1853. It was in that year that we hung (not our harps upon the willows, but) sticks in our box hive, for the bees to build to. This was several years before we ever saw or heard of a movable comb hive. We found that some of our old acquaintances and friends were beekeepers, and several of them on a large scale. Among them, we found Mr. Shelby Vannetta, Mr. Isaac Payne, and Mr. Jos. Allen. In fact, there has been a general waking up there, and you will find but few with their bees in the old box hives. Mr. S. Glass and Capt. Stuart are two of the largest apiculturists in that county. Their colonies are numbered by the hundred. After spending a very pleasant week, indeed, and talking bee and bee hive to our satisfaction, we hastened on to Franklin, Simpson county, the fair commencing there September 5th. Franklin is a beautiful town of three thousand inhabitants, on the Louisville and Nashville railroad, 135 miles south of Louisville, and 50 miles north of Nashville. Here we found some live beekeepers. Among them, Mr. T. Proctor, Mr. John Brevard, Mr. J. N. Steele, and many others, too numerous to mention. And whom, besides, do you think we should meet here, but Dr. T. B. Hamlin, of Edgefield Junction, Tennessee. The Doctor had his hive on exhibition—the Langstroth. Remember, the Doctor owns the State of Tennessee in that hive, and Simpson county being a border county, we of course met numbers of Tennessee beekeepers at this fair. The Doctor and ourself talked bee and bee hive for a whole day, and when the committee on bee hives came around, you ought to have seen us in our shirt sleeves, spreading ourselves. But the Doctor could not be prevailed on to stay more than one day. We will here state that we examined the apiaries of the gentlemen before mentioned, and found all in fair condition, considering the early frost and the dry weather. We partook freely of the hospitalities of our hosts, Messrs. Proctor, Brevard, and Steele; you may say what you will, about good things, but Kentucky would beat them all. Our appetizer is all right yet. Among the Tennessee beekeepers whom we met, was a Mr. McDonald, from Sumner county. His whole soul is in this great work. After spending a week here, we went back to Louisville, to the fair commencing on the 12th of September. Here we met with many who are interested in bee-culture, some of them on a large scale. Although it was a rainy, bad week, we talked bee well and freely, and think were well paid. Here we met an old acquaintance from Indianapolis, Mr. Wilkerson, with the Wilkerson bee hive, an invention of his own, lately patented. We could not prevail on him to stay more than one day.

From Louisville we went down the Nashville road again, stopping at Bowling Green, in Warren county. This is a flourishing town, of four thousand inhabitants. Here we talked bee early and late, for we found but few whom we could call apiarians. Mr. S. S. Potter, and Mr. A. Simmons, are the largest beekeepers in this county, and are very much interested in beeculture. We are much indebted to them for courtesies shown to us. As we now had one week between the Bowling Green fair and the Nashville, we spent most of the time at Franklin, Kentucky, interviewing the beekeepers of that section as to the locality being a good one to establish a large apiary, and for the manufacturing of bee hives. We were fully impressed that Franklin is a good location for both purposes, and are now of the opinion, that we will locate there. Should we do so, we will notify the beekeeping public, and still hope to have our old customers, as well as new ones, call on us for both hives and fine stocks, as well as *pure queens* from imported ones.

After spending several days at Franklin, we hastened on to Edgefield Junction, Tennessee, the home of Dr. T. B. Hamlin, the bee-king of the South, and President of the Apiarian Society. The Doctor, *indeed*, remembered us, for we had

met at Franklin only two weeks before, besides having met at Indianapolis in December, 1870. We found the Doctor as busy as a bee among his bees. In fact, until late at night, was he feeding his nuclei. Among the new acquaintances formed, was that of Mrs. Hamlin, a most estimable lady, indeed; Mr. Barber and lady. Mr. Barber, the son-in-law of Dr. H., is a Kentuckian; also, Mr. Barnum, partner of Dr. H. in a large nursery, called the Cumberland Nursery; also, Mr. W. E. Ladd, formerly of Newport, (Ky.), but now assisting the Doctor in his apiary. We were sorry, indeed, that Mrs. Ladd was absent in Kentucky on a visit, as we should have liked to make her acquaintance. We also met Mr. Oscar Hamlin, the Doctor's son, and Mr. Shaw, who is employed in the manufacture of hives on a large scale, for the Doctor and Mr. Ladd.

After eating a hearty supper, we talked with Doctor H. and Mr. Ladd about bees for several hours, then retired, resting well; and were up early, and out among the bees. This was, indeed, a busy time with the Doctor and Mr. Ladd. as well as Mr. Barnum, for bees, as well as bee hives and fruit trees, had to be prepared for the fair the coming week.

We will here state that the Tennessee Agricultural Board does something, which very few, if any of our Agricultural Boards do, that is, they give the Apiarian Department some notice, offering premiums on best colony of Italian bees; also on best colony of black bees, on bee hives, on melextractors, on finest ten pounds of comb honey, on finest ten pounds of extracted honey, extracted by melextractor; also premium for the best general display of honey. The Apiarian Department was placed in charge of the Tennessee Apiarian Society, with Dr. T. B. Hamlin and Mr. J. A. Fisher as superintendents.

We remained with the Doctor until the following week, giving our aid to get all ready for the fair. We had a look into fifty or more of the Doctor's fine colonies, and were shown very many fine queens, many of which were imported. The Doctor has three hundred colonies of fine pure Italians, and his arrangements for rearing queens are excellent. He can be called the bee-king of the South. We found Mr. Ladd an apiculturist, indeed, well posted in every department, and ready at all times to demonstrate what he knows. He has but few equals within the sphere of our acquaintance. All things being in readiness, we started for the fair. On arriving, we found the Apiarian Department well represented in bees, bee hives, and honey; but there was only one extractor on exhibition. The Adair hive was represented by Dr. Davis; the Logan hive, by Mr. ——; the Tennessee improved, by Mr. J. C. Owen; the Langstroth, by Dr. T. B. Hamlin, W. E. Ladd, Mr. Barnum, and others; and the Triumph, by your humble servant, W. R. King. Dr. Hamlin had two full colonies of Italians, besides several nuclei, on exhibition. He took the premium on the best colony of Italian bees; also on best general display of honey (no competition). Dr. Davis took the premium on best colony of black bees, in Adair hive, there being one other, in old box hive. Mr. J. A. Fisher took premium on extracted honey. It was fine, indeed. Mr. Stuart, on best comb honey. Dr. Hamlin, President of the Tennessee Apiarian Society, and superintendent of this Department, took the premium on *his hive*, the Langstroth. As I was a stranger, and a long way from home, I kept quiet, and looked on, listening to outsiders; and it was the general talk that the Tennessee Apiarian Society did not intend that the Langstroth hive should be beat, for their President owns the State of Tennessee for that hive. Besides, they had adopted it as a Society, and they mean to hold on to it, no matter what better hive may be shown them. We say this was the general talk outside of the Tennessee Apiarian Society. We were advised, before we went to Nashville, not to enter our hive for exhibition; that there would be no show for us. But we were not to be bluffed off in this manner, for we have attended, in person, this fall and last, fourteen fairs with our hive, and it has also been exhibited at over twenty other fairs, by other parties, and it was never beaten before; consequently, we were not afraid to exhibit anywhere where we would find unbiassed, competent men to act as committee men. We will soon prepare a description of our hive for the American Bee Journal, to be illustrated by cuts, so as to let it come fully before the beekeeping public.

Fearing that we are wearying you, Mr. Editor, we will close by promising to send you shortly an article on non-flying fertilization, according to our plan, which has proved successful the past season, in every instance except one. We will also tell you something about N. C. Mitchell's method of fertilizing queen bees in confinement, and *where he got his plan.*

W. R. KING.

Milton, Ky., Oct. 24, 1871.

[For the American Bee Journal.]

Does the Queen Bee Lay Eggs in the Queen Cell?

On page 85, of the October No. of the Journal, the editor asks the above question of American beekeepers. As I came so near seeing that important action on one occasion, I will relate what I have already told my friend Gallup, at the time of the Indianapolis Convention.

Two years ago, in the latter part of May, I examined every one of my colonies, for the purpose of clipping the wings of the queens that had not already been so treated on some former occasion. I had carefully examined every comb, but could not find the queen of the second hive I opened. I therefore renewed the search. On taking out the second frame, I noticed a queen cell of nearly full size, built on the front edge of the comb, and there also I observed the queen withdrawing her body from that very cell.

As I could not look into the cell without difficulty, I opened it and found on its bottom an egg, fastened in the same manner as we find them in worker and drone cells. Whether this cell contained an egg before the queen inserted her abdomen into it, or not, I did not know, but

could not imagine for what purpose she inserted her body, if it was not with the design of depositing an egg therein.

In former days, I watched hives with queen cells very closely, when the cells were sufficiently advanced for the reception of an egg, but I never before noticed a queen near a queen cell—usually finding the first eggs on my examinations in the morning. These eggs I found fastened on the bottom of the cells, the same as in other cells, and I was then satisfied that only the queen herself could do it. A. Grimm.

Jefferson, October, 1871.

☞ It is known that, under certain conditions, numerous queen cells are sometimes started in colonies, and again deserted and abandoned, in their rudimental state, by the workers—having been advanced only so far as to have received, at most, a form resembling somewhat that of a miniature acorn cup. It is also known, that such queen cells as are designed by the workers to be used, from first to last, for queen production, undergo various modifications in the course of construction, and even after they have been capped over. Mr. Grimm's observations, given above, render it almost absolutely certain that the queen does deposit the egg in the royal cell—a point about which there has heretofore been much doubt and controversy; but which, in view of his statement, can hardly be regarded as debatable any longer.

But it now becomes desirable to ascertain the precise form of the royal cell—particularly the diameter of its mouth, at the time the queen makes the deposit. We conceive the size and form of these cells must, at that time, so greatly to resemble those of the common worker cells, as to induce or *tempt*—if we might not rather say, *mislead*, the queen to use them as egg depositories. For it does appear altogether unlikely that a queen, even when perambulating the comb in quest of empty cells, would be led or misled to lay an egg in a wide-mouthed cell, placed so differently from any which she had been accustomed to see, and so little resembling them. It hence seems probable that among the various changes and modifications which these cells are known to undergo, from their foundation to their *ultimate*—not their first *apparent*—completion, there is one which deceives the queen, or misleads her to take it to be a common worker cell, though somewhat oddly placed. And, further, that this modification is of such nature as to enable the queen, when ovipositing in such cell, to impregnate the egg, which it would seem impossible for her to effect in a wide-mouthed cell, such as the royal cell is usually conceived to be. We cannot suppose, either, that a queen, consciously and voluntarily, lays an egg in the royal cell, for the purpose of initiating the production of a rival or a natural enemy, to which she is known to bear instinctive implacable hatred, and for the destruction of which from—or even prior to—its birth, her strenuous efforts are exerted and directed.

At all events, there remains a mystery here, to the elucidation of which close observation and patient watching, if not "happy accident," may lead. That a queen can distinguish at least between cells of different size, is evident from her careful avoidance of drone cells at certain periods; and as it is not supposable that she designedly selects or elects a cell for the purpose of depositing therein an egg, destined to produce her deadly natural foe, is it not more probable that she is deceived into doing so, by strategy on the part of the workers? and that the same strategy secures, at the same time, another primary object of the arrangement and operation—the impregnation of the egg deposited? We may, ere long, have occasion to recur to this subject, and discuss it more fully in its various aspects and bearings.—[Ed.

[For the American Bee Journal.]

Improvement of Bees.

Can bees be improved? This question is not without its importance to the beekeepers of this country. But so little has been done in the way of effort in that direction, that we are left without the light of any very extended experience to guide us. Yet there are facts within our reach which will aid us in coming to a correct conclusion in regard to it.

There is a marked difference in bees. The difference in the bees of the northern and southern portions of the United States—the black bees of the north and the gray bees of the south—is well known. In this region we have both, with various shades of mixture. A close observer of our native bees cannot fail to notice differences in size, color, temper, disposition to gather honey, and disposition to rob. The same is true, even in greater measure, of the Italian bees. They not only differ widely from the black and the gray bees of this country, but they differ among themselves. They differ in size, in shape, and in color, and marking. They differ also in disposition. While they are, generally, more tractable than the natives, some are more irritable than others. These and other differences seem not to arise from admixture of foreign blood, but from a tendency to vary from the primitive type. And this tendency I believe to be greater in the Italian than in the native bees.

Another important fact is, some queens are far more prolific than others. And if we judge by analogy, we will be compelled to believe that superior fecundity is transmissible. It is so in the case of all our domestic animals, and among all other organized beings, as far as we have had opportunity of accurate observation.

It is a fact worthy of consideration, that the queen impresses her own character upon her progeny more strongly than the drone does. The progeny of a pure Italian queen, which has mated with a black drone, show much more of the qualities of the Italian than of the black race; while the progeny of a black queen and an Italian drone, resemble the black bees more than the Italian.

From the above-named facts, it seems reasonable that by careful selection, bees, as well as any other kind of stock, may be greatly improved.

And if we had no race of bees superior to our native blacks, which we certainly have in the Italian race, it would pay to give attention to their improvement. For this purpose we must select our very best stock to breed from, rejecting all that show inferior qualities. In a few years, by this process, our native bees could, undoubtedly, be made far superior to what they now are. But it is wise to begin with the best. The Italian bees are, in nearly all respects, superior to the natives, and inferior to them in nothing; and with the greater tendency to vary from the ancestral type, they present the most promising field for efforts at improvement. In order to make improvement, the beekeeper must familiarize himself with the special qualities of the several stocks in his apiary, and constantly select the best from which to raise queens. If we could choose the fathers of our bees, as well as their mothers, improvement might be more rapid; but, I have come to the conclusion that fertilization in confinement is impracticable. It may be accomplished now and then; but the failures will be so many, that it will not pay to attempt it. Most of the reported cases have been, in my judgment, failures. Queens and workers are so nearly of the same thickness, that no reliance can be placed on so arranging the place of entrance and exit, that the workers can pass and the queen cannot. Let a wing of the young queen be clipped, and then if she becomes fertile, we will know that she did not fly abroad and meet a drone in the air.

As far as my observation has extended, there seems to be no hope of improving our bees, by crossing the Italian and native races. The progeny of a pure Italian and a black drone are nearly as good as pure Italians; but any further cross is altogether undesirable, unless it be a further infusion of Italian blood. I have quite as many bees of mixed blood as I want. I have destroyed all queens that will not produce pure Italian drones, and will be careful not to have any more of that kind. M. MAHIN.

New Castle, Ind., Oct. 31, 1871.

[For the American Bee Journal.]

A Bee Orchard.

MR. EDITOR:—I am sorry indeed to see our friend Novice suffering from paralysis. Nobody's contributions would be more sorrowfully missed. May his sickness be of short duration.

The following would be my plan in planting a linden orchard. I would buy the quantity of trees needed from a seller who takes them from the woods when about an inch in diameter, with good roots; and set them about twenty-five feet apart. If I could not do this, I would contract for the quantity wanted with a nursery man, to be sprouted from slips or cuttings, in a hot house during winter, to be set out in the spring.

Linden is a soft wood, and will readily grow from slips. This will save a great amount of care and labor, indispensable when raised from seed. I have planted trees (linden) taken from the woods, which lived and did well, when dogwood and rock maple died. I have also a European linden tree, which though a handsome shaped tree, does not grow near as fast as its American sister (*Tilia Americana*). When in Germany a few years ago I saw a linden tree, two hundred years old, as large as an American sycamore. How I wished that I had a few dozen of them in the new fatherland.

Setting the lindens at twenty-five feet a part, I would set the German willows (Saalweide) at twelve feet. They also grow from cuttings, in wet ground. I think I saw some in Mr. Langstroth's yard. I also have two of them. Englishmen call them palm trees. They are very ornamental, and furnish the earliest pollen in the spring. Dzierzon recommends them highly.

Lastly I would fence in the whole with the Japanese quince. They are strong, and can be early trained to turn stock. With their scarlet blossoms they present a most beautiful appearance in the spring, and also furnish early food for the bees. Nurserymen would supply them at reasonably cheap rates, or contract by the quantity. They are to be grown from slips also, in hot beds.

Linden trees prefer low good ground. I would drain, subsoil, plough deep, dig the holes four feet cubic, and fill with rich ground, but no fresh manure.

One nurseryman of our town offered to sprout quince for me last year, when I intended to buy some, but did not get ready.

I repeat my best wishes for Novice.

P. HULLMAN.

Terre Haute, Ind., 1871.

[For the American Bee Journal.]

The Melextractor.

MR. EDITOR:—I receive many inquiries as to my opinion of the benefits to be derived from the use of the melextractor. The questions are something like the following: When is it proper to commence its use? Is it best to operate in or outside of an enclosure? How are we to get the bees off the combs, when we wish to extract the honey from them? Will the unsealed brood be thrown out with the honey? And whose extractor is best?

As to the benefits to be derived from its use, I will state that had I not used it during the past season, my honey yield would have been almost an entire failure. My bees seemed determined to store honey nowhere except in the breeding chamber. So much was that the case, that in several instances they almost crowded their queens out of space in which to lay eggs, before I could reach them with the extractor. Yet in very few instances was there any disposition manifested to enter the surplus boxes, whether situated on the top of the hive, or at the side. This was the case even where I had furnished them boxes with combs, as an inducement for them to enter them. My apiary was mostly used for queen-breeding, so that I had no fair means of determining the amount of honey I might have procured, and I devoted my bees

entirely to honey gathering. I had near twenty stocks which I used mostly, though not exclusively, for this latter purpose, and extracted from their combs a fraction over two forty-four gallon barrels of linden and white clover honey. Had the honey yield been propitious from the latter, I feel confident that my yield would have been doubled. I give the extractor credit for at least three-fourths of the honey I obtained during the past season.

From the foregoing considerations, namely, that I found my bees unduly slow, and in nearly every instance almost wholly unwilling to work in boxes, I recommend the use of the melextractor to the beekeepers of the country, as the best means of securing the largest yield of honey possible. True, it will be a little more difficult to sell it, until the beekeeper establishes for himself and his honey an honorable reputation. In some instances this is already accomplished, and such honey sells rapidly and at fair prices, so far as facts have come to my knowledge.

I commenced extracting honey on the 10th of June, and left off near the 12th of July. From this it will be seen and understood that it is proper to begin to extract honey as soon as the combs begin to get heavy, and to leave off whenever there are indications that the honey yield is closing up. I did not wait for the bees to cap the honey over in the combs before extracting it, as with us the season was dry, and the honey, as a natural consequence, was not thinned down to the consistence that would render it liable to sour. Had this been the case, I should probably have been more tardy about extracting it.

At first I operated in my cellar, where I was not exposed to bees, and the temperature was quite cool and pleasant, after I had got quite warm in opening hives. But as I could not take the combs from more than one hive at a time, I found myself exposed to such a succession of sudden changes from hot to cold and the reverse, in going to and from the cellar, as was about to make me sick. I therefore moved my quarters to a room above ground, where I operated with closed doors. I find that to operate in the open air causes more or less bees to follow up the machine and prove a great source of annoyance, besides many of them get drowned in the honey.

I got the adhering bees off the combs partly by gently shaking the comb either directly over the breeding chamber, or at the entrance of the hive. The remainder I brushed off with a small hard broom, made by tying six or more tops of broom corn together with a piece of wrapping twine. I was of course careful to see that the queen got safely back inside of her hive in each case. I found it necessary to run the extractor with care, in cases where I was extracting honey from combs containing unsealed brood, as many larvæ were thrown out when the machine was run at a high speed. Persons using the extractor will, in a short time, learn about what speed to give the machine.

I used Gray & Winder's extractor, and found it to be a most excellent machine. It is geared, which requires much less labor in getting up the necessary speed. It does its work well, and is, I think, decidedly the easiest to clean of any machine I have yet seen. It is also constructed in such a manner as to entirely prevent any of the lubricating grease from getting into the honey. The honey, on being extracted from the combs, runs out of the machine into a vessel underneath the can, as soon as the speed is stopped and the extractor brought to a stand still.

I make it a custom to run the honey through a common meal sieve before putting it into permanent receptacles. By this means very small particles of comb or cocoons are separated from the honey, and it is left in a perfectly pure state.

In conclusion, I would say in regard to extractors, that I feel a delicacy in recommending any particular machine in an article like this. Yet I feel in duty bound to say that unless an extractor is geared it must require much more labor to bring its speed up to the proper point for throwing out thick honey than one having two wheels and a crank attached. I have not seen all the geared machines. There may be several good ones, but in my opinion, one that is made so as entirely to prevent the honey from coming in contact with wood is preferable to one that does not possess this quality. I have already stated that I put my honey into large barrels, but I do not like the plan in case I wish to sell in quantities to suit the grocers in our cities, as they will not in many cases purchase as much as a barrel at one time. I would therefore recommend it to be put into ten gallon casks, and it will sell readily in most cases. Some, however, prefer putting it into two or four pound jars, with a handsome label attached, giving an account of the kind of honey the jar contains. This, I believe, is the manner in which Novice puts up honey for market.

I hope to be pardoned for making this article so long.

G. Bohrer.

Alexandria, Ind.

[For the American Bee Journal.]

A Colony of Bees without Brood,

On September 22d.

A half bred Italian colony was deprived of its queen, and supplied with a queen cell from pure stock. When the time came round that young workers should have hatched, that colony was examined, and neither any brood nor any hatched workers were found. Only five eggs were found at the bottom of cells in the middle worker comb. I concluded that I had one of those queens whose eggs do not hatch, and immediately removed her to a nucleus, for preservation and experiment—knowing that the bees in the colony thus unqueened would hatch those eggs, if they were hatchable.

A week later the colony was again examined, and to my surprise, a queen cell was found built over each of those cells with the eggs, and several of them were already sealed. It was evident that the bees had stopped breeding at the beginning of the month of September, on account probably of the very dry weather.

I have still to mention that the queen referred to had supplied fully one-half of the cells of a comb on the fourth of September; and it was therefore not her fault that the bees had raised no brood. I subsequently re-introduced her to her colony.

In this locality, bees do not usually stop breeding before the end of September, and the queens continue to lay a few eggs even through the month of October. From these the workers will raise queens, if deprived of their queen intentionally or accidentally; and in a number of cases I lost valuable queens, which had been introduced and accepted, simply because I neglected to destroy those queen cells.

A. GRIMM.

Jefferson, October, 1871.

[For the American Bee Journal.]

Non-Hatching Eggs.

MR. EDITOR:—Many cases are now reported of queen bees laying eggs that do not hatch. About a dozen such have come under my own observation or actual knowledge. Then, too, other nearly analogous phenomena have been noticed—namely, of non-laying queens. I can report one such case myself. About the middle of August, I came to one of my hives, intending to remove the surplus honey, for extraction by machine; but to my surprise found no brood of any grade, nor any eggs. That hive had given me a natural swarm, but was still well populated, though it soon proved to be queenless. I put in a fertile queen, caged between the combs. Forty-eight hours afterwards I found the queen dead. I then inserted a queen cell, and next day found that cut out and destroyed. The hive was then left in this condition several weeks, when I made a close inspection. The hive was no longer so well populated, but I found a nice yellow queen, bred from hybrid brood, and bearing all the signs of being a prolific queen. Nevertheless I saw not a single egg in the cells. I killed that queen at once and tried to introduce another, but again without success.

A few days after this, I opened a strong nucleus, to examine the expected just hatching young bees, as the queen had been marked in due time as impregnated. But no brood in any stage, nor eggs, could I see. The queen was a splendid looking one, and the workers treated her with the usual tokens of respect. What could have been the matter with her, that she laid no eggs at all? A similar case came under the observation of Mr. Adam Grimm.

The honey season here was cut short by drouth, and little honey was stored after the basswood bloom was over. A few hives filled small boxes with thistle honey. We had no buckwheat blossoms, nor any other fall pasturage, such as we had last year.

I am tired of the box honey business as my hundred colonies and their eighty-four swarms yielded me only two thousand (2000) pounds of box honey; and had it not been for honey-slinger aiding me to take four thousand (4000) pounds more of extracted honey from the main hives, I should have had a small harvest. But the bodies of the hives were so filled with honey, that I had to take from fifteen to twenty-five pounds from every hive—still leaving from twenty to twenty-five pounds of honey, per hive, for the bees to winter on.

If the next season prove to be as favorable as the last two were, I shall put the honey-slinger in operation earlier, and thereby double or treble my profits.

W. WOLF.

Jefferson, Wis., Oct. 5, 1871.

[For the American Bee Journal.]

How to utilize Wax.

Beeswax is quoted pretty regularly in the price currents, as worth thirty-five to forty cents per pound. This means in large cakes of pure wax weighing several pounds a piece.

This price would hardly pay a man for the trouble of getting it out, if he had anything else to do. A ton of iron may be worth thirty or forty dollars; but converted into steel, and made up into needles, it would be worth probably $200,000.

On a small scale, beeswax may be similarly increased in value and made worth much more than forty cents per pound, simply by converting it into small cakes of a size such as every woman wants in her work basket. Looking about the house the other evening for a mould of suitable size, I found a dozen small glass salt cellars, having a cavity about an inch in diameter and three-quarters of an inch deep, which I immediately made use of—casting nearly two hundred small cakes of wax, weighing about sixty to the pound. They would no doubt retail readily at five cents a piece, or three dollars per pound—an advance of *six hundred per cent.*

They can be cast and cooled rapidly, and the moulds used over and over again, care being taken to grease them properly before each casting.

How can a winter's evening be spent more profitably than in making up a few hundred such cakes of beeswax?

R. BICKFORD.

Seneca Falls, N. Y., Nov. 1, 1871.

☞ We have known beeswax to be thus "utilized" more than twenty years ago, and for the same purpose exactly, though to much greater profit, and by means too of precisely the identical salt cellar moulds. The only difference that we are aware of, consisted in the employment of bleached wax, costing then about eighty cents per pound, and the insertion of a splendid suspensory riband in each cake. Though these cakes were then cast either plain white or of various colors, we presume it was the riband "improvement" that added so largely to the commercial value of the much admired little work basket appendage, as made it find a ready market at ten or twelve cents, each; or at the rate of six or eight dollars per pound.

Thus it appears that if friend Bickford, or any one else, had obtained a patent for this invention. Mr. A. B. C., or Mr. O. P. Q., might come forward, contesting his claim to the originality of the "new manufacture," and show that he could at most have only the merit of being the mere *re-introducer* of the convenient little ante-frizzler. Alas, there is positively nothing new under the sun, nowadays. We knew an old lady—a most excellent good-natured and kind-hearted lady, we remember she was—who having no gloves, always used her apron to protect her hands from the roughness of the brush-handle. Yet not long since a shrewd Yankee, with an eye to business, contrived a neat though somewhat fantastic pinafore for the same purpose; and sought to get a patent for it as "a new and useful invention!" What new thing comes next? Nobody, in these latter days *invents* anything—that's a settled if not conceded point. They merely *introduce* new "notions;" and *queer* notions some of them are found to be on inspection.

But—*revenons à nos moutons*—we have no doubt that the suggested use of wax, the by-product of the honey bee, could still be made with advantage and profit—supplying to the busy seamstresses of every neighborhood relief from a daily felt want, in a neat and acceptable shape, to the manufacture of which they would gladly extend a liberal patronage.—[ED.

[For the American Bee Journal.]

Remarks on Various Topics.

MR. EDITOR:—It is about time for me to renew my subscription for the seventh volume of the JOURNAL; and while writing I will give you some facts pertaining to beeculture—the honey season in this locality; the raising of queens, and how I introduce them to queenless colonies, and how I obtain queen cells.

TO OBTAIN GOOD QUEEN CELLS.

I unqueen a strong colony. In this way I get cells more natural, and the best cells are always at the bottom or lower edge of the comb, or in some aperture. These cells are always longer and more fully developed than those on the face of the comb. Now here, friend Price has gone down on artificially raised queens like a thousand of brick; yet I have fifty (50) colonies of bees, all of which have artificially raised queens, and some of these are three years old. In selecting my cells for breeding purposes, I use only the largest and best ones. There will be some found not much larger than drone cells. All such I throw away. Perhaps it is here that friend Price has made his mistake, causing him to condemn artificially raised queens. Possibly, too, that revolvable hive which he uses addles his queens. When I first commenced breeding Italian queens I used all the cells I could get, but soon found that to be wrong, as I would always get a lot of small short-lived queens. After discovering my mistake, I used only the largest and most natural shaped cells, and the queens I now raise are long-lived and handsome.

A SINGULAR CIRCUMSTANCE.

I have to relate an occurrence in my apiary, this season, that is rare, namely: A colony that builds queen cells, and the old queen still remaining in the hive. I opened this hive in April and found sealed queen cells, and the queen in the hive without a wing. I began to suspect the bees were about to supersede her, though there was plenty of brood in all stages, from eggs to hatching bees. She is a queen I have been breeding from these three seasons. I paid ten dollars for her, when I bought her from Mr. Langstroth. I removed the queen cells, and introduced them in nuclei. In a few days, opening the hive again, I found more queen cells, and removed them also. The bees kept on building queen cells, and I kept on removing them as fast as they were sealed up. They have queen cells to-day, and the old queen remains in the hive up to this time. During this period I missed removing one cell, which hatched, and the young queen was killed and dragged out of the hive. This is the first case of this kind I have had; others, perhaps, have had the like,—Mr. Langstroth, possibly.

INTRODUCING QUEENS.

There have been a great many different opinions with regard to introducing queens. Queens may be safely introduced at certain times, in almost any way. Near swarming time, or when bees are gathering honey rapidly, queens will be more readily received.

I have introduced queens in different ways, and under different circumstances. When I first began to raise Italian queens, and introduced them to black colonies, I was led to suspect that the bees had to remain without a queen six hours, and first become conscious of the loss of their queen, before another could be safely introduced. But I have since found that to be unnecessary.

In making artificial swarms, before closing up the hive, after removing the old queen, I have introduced the new queen in the old hive, sometimes by sprinkling with sugar water scented with peppermint; others by caging for forty-eight hours; and found them all well received. Others I have left in the cage three days and liberated them among the bees, after daubing them with honey. These were also well received.

I find it best to make your swarms, and let the old hive remain till about sun-down the same day you make your swarm, or say six hours. By that time the most of the old workers will leave the old hive and return to the new hive on the old stand. I then introduce the queen, first sprinkling the bees with sugar water scented with peppermint. I find they are almost invariably well received, and the old hive remains without a queen only a short time.

I have introduced queens just hatched, and found it could be done without any trouble. When I have introduced a queen several days old, the bees would at once confine and destroy her. I have had the bees to confine queens after they have been liberated two days and commenced laying. It appears that the bees get alarmed by the opening of the hive and clinch

the queen and would kill her if not liberated. I find it is best to let a hive remain undisturbed ten days after liberating the new queen; though this is not always necessary.

These are facts that have come under my own notice. Facts are what we want—no theory. Every man should write just what he knows to be facts, and nothing more. We want no guess work, that would be likely to lead new beginners astray. Now for

THE HONEY SEASON.

In the spring the most of the colonies were not very well supplied with honey, owing to the poor honey season the previous year. And then the spring itself was unfavorable. By the time the linden trees blossomed the honey in the hives was nearly all exhausted; but the blossoms coming two weeks earlier than common, just saved our bees from starvation. The lindens gave us the best yield of honey this season that they have for many years, and this caused the bees to swarm very liberally; and about that time I began to expect a great honey yield this season. But after that honey harvest was past, bees gathered very little honey till the present time, owing to the dry hot weather. Now we are having frequent showers, and the bees have commenced storing honey quite briskly. I look yet for a liberal yield of honey, provided the weather keeps warm, with frequent showers. I must not forget to tell you about one of my colonies, how it gathered honey at the time of the linden blossoms. In ten days it filled a Langstroth hive, ten frames, and two twenty (20) pound boxes.

The honey season has closed with a fair yield—the best we have had for several years.

MR. PHELPS' APIARY.

I visited Mr. Phelps' apiary a few days ago. He lives about twelve miles west of me, on Skunk river. He started last spring with some forty colonies; and the result of his operations is that he has increased his number to upwards of eighty stocks. He told me that he had sold eighteen hundred (1800) pounds of honey, and has now on hand, in his beehouse, two tons of honey in the comb in frames, besides several barrels of extracted honey.

My bees are in fine condition to go into winter quarters. J. W. SEAY.

Monroe, Iowa, Oct. 29, 1871.

[For the American Bee Journal.]

Some Interesting Items.

RENEWAL OF SUBSCRIPTION.

MR. EDITOR:—Enclosed please receive two dollars, for volume seventh of the American Bee Journal. I would have sent it long since, but wished to give you at the same time my experience in wintering bees and introducing queens.

WINTERING BEES.

I have tried wintering in the cellar for three winters, and my cellar is a dry one; but, invariably the combs became mouldy, and the bees filthy from cellar confinement; while those wintered on their summer stands, were without exception found to be in good trim in the spring.

I never try to winter any colony not supplied with as much as thirty-five (35) pounds of honey, clear of the hive that contains them. This is easily ascertained by knowing the general weight of the hives before putting a swarm in.

My plan for wintering on their summer stands is simple. I use the Langstroth hives—setting them on several pieces of scantling, two by four inches, placing the front piece flat and the rear piece edgewise, and putting the hives on them, facing the south or southeast. I then drive two pieces (say a lath cut in the centre) on the west side, near the corners of the hive, and on the east and rear the same way, leaving the front open. Next pack in oat straw (or any other straw, or hay) tight between those stakes and the hive, after having first removed the slats from the honey board, and covering the honey board with carpet or any other cloth, to protect the bees against cold and give them upward ventilation. A strong swarm protected in this way, would stand a "Siberian winter."

INTRODUCING QUEENS.

My plan for introducing queens has never failed when fully carried out. In the first place, I remove the queen I wish to supersede, having the queen that I wish to introduce ready in a wire cage, with some half dozen workers of the colony from which she was taken. Then insert the cage between the frames, having the paper plug of the cage so tight that the bees cannot dig her out. Use rotten wood smoke freely, from first to last. Just before closing the hive sprinkle the whole swarm with a solution of sugar in water, with plenty of grated nutmeg to give it scent. Let the hive remain forty-eight hours without further disturbance; at the end of which time give them another thorough smoking, so as to subdue them well. Then open the hive, blow in smoke from the top, sprinkle well with sweetened nutmeg water, making sure that the queen has been wetted with the solution. Now remove the plug from the cage, cover up again, and let the queen come out at pleasure. In five or six days, or sometimes on the third day after liberating the queen, examine the hive for any appearance of queen cells, and destroy them if any are found.

I do not claim this plan as original with me, but I do claim it to be always successful.

THE YIELD OF HONEY.

The honey season closed here about the first of July, and the bees did nothing since till some time in September, when there was a revival of pasturage on which the bees worked about two weeks. The honey then gathered was obtained mostly from heartsease,* the yield from which was abundant here.

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*Probably the *Viola striata*, or pale violet, which is common in some sections westward, and blooms from April to October, yielding more honey than any other variety.—[ED.

In all, my colonies have made about seventy-five (75) pounds surplus, each, this season. The drought was too severe and protracted for much honey gathering.

THE ITALIANS, AND THE BEE JOURNAL.

I am fully satisfied of the superiority of the pure Italian bees, over the common black bees. Also, satisfied of the successful career of the American Bee Journal. More anon.

H. W. WIXOM.

Mendota, Illinois, Oct. 9, 1871.

[For the American Bee Journal.]

Large Surplus Honey Boxes, or Small?

MR. EDITOR:—I have been a reader of your valuable Journal for several years, but never attempted to contribute anything to its columns. As writing for the public is out of my line of business, I considered myself excused from that duty. Yet, after reading "SCIENTIFIC'S" article, on page 59 of the December number, I thought I would comply with his wish, and give my experience with large boxes and small. I may have to do a little axe-grinding, Mr. Editor, before I get through, but will bear on as lightly as possible.

My first experience was with large boxes, holding from twenty to forty pounds each, placed on the frames without honey boards. By this method I could get a satisfactory yield of surplus honey, but I found it would not bear transportation as well or sell as readily as in smaller boxes.

Next I tried six-pound boxes, and from that down to three pounds, with one comb. The three pound boxes I found would sell in the New York market five cents per pound higher than four to six pound boxes. But, after using the three pound boxes two years, I learned that bees would not work to as good advantage in them as in the larger boxes. Then I decided to use the large boxes again, thinking I should get enough more honey to balance the difference in price; but when it came to selling time again, I had more trouble than ever to dispose of the large boxes.

This convinced me that we must combine the advantages of both large boxes and small, if possible. This I tried to do, by using the small frames, which secured the advantage of the large boxes in full, but that of the small ones only in part, for the frames will not handle or ship as well as the small boxes, because the combs in the frames will vary in thickness, so that they will not pack promiscuously without marring the combs.

Not satisfied with this method, I experimented still further, and at last hit upon a plan of arranging small boxes, so that they secure the advantages of both sizes so near to perfection that after three years' trial, I am satisfied to use them altogether. Bees will store as much honey in them proportionally as in large boxes, and the combs are all built of the same thickness and perfectly straight, one in each box, so that they can be packed promiscuously in any sized package for shipping, and the combs cannot touch each other. If desired, each comb can be encased in glass, making a nice two pound box that will sell for five to seven cents per pound more than five or six pound boxes would. Last year I sold in this shape eleven hundred and sixty (1160) pounds, in the Oswego market, at seven cents per pound above the market for other styles.

These boxes are arranged in rows, in a shallow case secured by keys, so that the whole set can be handled as one box. The outside boxes are closed by glass. A tin partition is placed between each box, leaving a half inch open space on each side for communication. Finished combs can be easily removed, and empty boxes put in their place at any time.

This article is getting longer than I intended, so that I will leave further description of the improved boxes till I get cuts. They were patented November 22d, 1870.

One word to Novice. We have the basswood orchard fever here also, and would like to hear more on the subject in the Journal. Mr. A. Battles, of Girard, Penna., advertises tulip and linwood trees at two dollars per thousand. That is cheaper than we can raise them here from the seed.

GEO. T. WHEELER.

Mexico, N. Y.

[For the American Bee Journal,]

To Prevent Bees Robbing.

DEAR JOURNAL:—I have read of and tried the use of gum camphor and kerosene oil, to prevent bees robbing, and find they have good qualities for the purpose. I have also read of a piece of glass being stood before the entrance of the hive being robbed, for the robber bees to strike their heads against it, in their hasty flight. But the only *complete* and *easy* remedy I know of, consists in making a little ante-room in front of the hive being robbed, through which the bees must pass before they enter the main hive. This has proved effectual; for while the bees belonging to the hive have no fears in passing the ante-room, the robber bees by no means like the idea of being caught in such a trap. Like any other robber, they want a fine easy chance of retreat. To be cornered up, with only a small aperture to escape by, is contrary to their common sense; and so they seem to be about as much afraid of entering this *ante-room*, as a bear is of putting his foot in a trap. If, however, the strange bees have got so full possession of a hive, that they come with a rush, like soldiers storming a fort, it may be necessary to first break the jam by other means. This can be done by covering the hive with a sheet, and tucking it under the bottom board. The bees can then come out of the hive, crawl around, get the air, and go back when they please. They cannot, however, fly away; and robber bees coming can see nothing but a sheet—an undesirable object for them to hang round. The force of the attack will probably be broken in two days, when the sheet may be removed, and the ante-room applied in the morning. The bees in a hive robbed being

usually small in numbers, it may be well, on the first morning after the sheet has been removed, to close the ante-room entirely, so that there can be no entrance from without, until the bees from the hive have filled said room. Then it may be opened a little, and all will be right. To make the ante-room, take two blocks, from one to two inches thick, and about five inches square, and place a corner of each against the hive on each side of the entrance; bring the other two corners nearly together, then cover them on top, and the work is done. The bottom board should extend beyond these blocks, so as to give the bees an alighting board. The shape of the blocks will be a guide to them, to enter at the right place. As the danger of fighting decreases, these blocks may be put further apart, till removed altogether.

The above mode of preventing robbing is given by Mr. C. Dadant, in the April number of the Bee Journal, vol. V., page 204, and I consider it of importance enough to be worth republishing. Besides, a correspondent in the last Journal asks for such information. I tried the above with three hives, that were being robbed last spring, in an apiary of twenty-nine hives, and it worked to my satisfaction. Last fall, in preparing for winter, while there was no honey to be gathered, and bees consequently most inclined to rob. I have given to a hive a quart of sugar syrup in the morning, while the weather was warm, and no harm followed; and this fall, while there was no honey to be gathered, my bees *threatened* to fight, but something in the form of the above house, only with a side opening, effectually prevented harm, as robber bees do not like to be cornered.

Mr. Editor, I wish through the Journal to request correspondents of the same, *not to war on each other*, for we are *brethren*. Whatever is brought to light as an improvement in agriculture, be it patented or otherwise, let us content ourselves with showing what *we know*, for or against it. We are not all *best* suited with any one thing. Any one who thinks he knows something to advance beekeeping, should be encouraged to make it public. We probably have as yet heard from comparatively few of those that take our Journal.

Some have advised having the Journal published semi-monthly, at double price; but I would advise that if all the matter truly important that is written is not published, the Journal be sufficiently enlarged to publish the same, with price to cover expenses.

By the by, where is Mr. J. H. Thomas, of Ontario, whose articles we once so frequently and profitably read? I should be happy, now, as formerly, to hear from him.

The honey season here this year has been so bad that we do not like to talk about it. "*We* have nothing to say." ALONZO BARNARD.

Bangor, Me., Oct. 11, 1871.

It is really disgraceful for such a country as ours to import wax or honey. We ought ourselves to export thousands of tons of each every year.

[For the American Bee Journal.]

Precision Wanted.

MR. EDITOR:—On page 6 of the July number of the Journal, Novice tells us how to make his queen nursery and how to apply, and then adds—"You can thus cage all the queen cells in a hive, without cutting a comb, and when removed your comb is uninjured." I was surprised when I put this and the following together—"and if on the edge of the comb all the better."

I always supposed that Novice gave practical facts and teachings. Well, his teaching might be true, if the cells were but *sparsely situated* on the *edge* of the comb. Yet since they are often huddled together in groups of half a dozen or more, he would have to use the *dissecting knife*, and *remove* or *mutilate* some of them before his cages are applied, unless indeed he cages two or three of them together. Then, again, he did not tell us what to do if a cell is found on each side of the same comb, so that they would be enclosed in the cage when in place. Perhaps the queens will not get to each other through the comb. Let Novice explain himself.

I am sorry that I caused my friend Argo to lose a queen, by not being a little more explicit about how far to remove the nursery away from the hive, when he went to let his queens loose. Little did I think that he would not remember the teachings of the books, and remove them far enough, so that they would not make a mistake about their locality and return to the wrong home, as his queen did. That point should always be guarded against, as some queens may not be as particular as others, to mark their precise location, and hence may vary a few feet, if deceived by a similar mark in two objects; or, as in his case, on finding her home vacated, seek the nearest hive, though dissimilar in appearance, since they are inclined to social and family relations.

Of course we should remember Mr. Argo's warning, for there seem to be exceptions to general rules, and there may be one in reference to his queen returning to the locality from which she had been removed. Still the general rule holds good, if the hives, nuclei, or cages are removed far enough from each other.

JEWELL DAVIS.

Charleston, Ills.

[For the American Bee Journal.]

Observations and Reflections.

MR. EDITOR:—I am much interested in reading your Journal. Of some things mentioned in it by beekeepers I have had experience, and know them to be true. Of others I will not say I know them to be true, neither will I say they are false, for I have no means of testing them to a certainty.

I have the impression from some source that those who have made the honey bee a study, state the queen in her bridal flight mates with only one drone, and never after that mates again. How this is known I am at a loss to learn. If

the queen mates on the wing, or otherwise, out of the hive and away from observation, may she not mate with more than one drone? In my experience in raising queens, I could watch their departure from the hive; keep the time of their absence from home; and take notice of their appearance on their return. When returning with the genital organs protruding, filled with a whitish substance, I considered them fertilized, and would watch their movements with care afterwards, taking notice when they commenced laying, &c. Thus I have tested this matter of queen mating until I am satisfied that the same queen leaves the hive on two successive days, and returns with the same evidence of copulation, and after that ceases flying. In other cases I have caught them on their return to the hive with marks of having mated, and clipped their wings; and then, on the following day, at the hour when the drones were on the wing, I saw them come forth also and attempt to fly; and I would pick them up and place them in the hive again, though in some cases I lost them. In one case I had a fine Italian queen, which flew on twelve days in succession, before she came back with marks of having mated. (I had but few drones at the time, and there were then no bees kept within thirty miles of me.) She flew on one or two days after that, but returned without giving evidence of having mated again. She produced a finely colored progeny, but was a very slow breeder and her workers were not very energetic.

From these observations I have come to the conclusion that a queen may mate with more than one drone, though not necessarily always Should she be sufficiently fertilized by one drone, she would not fly a second time. Should she mate with drones of different blood, her workers would show it, and if not sufficiently fertilized, she might show it in her slow breeding.

I do not give this my experience and observation in this matter to upset other theories; but to state them as facts coming under my own observation in bee-culture. And I am anxious to know how any one can state to a certainty that a queen mates with only one drone. I have written more on this subject than I intended, but if it will add my practical knowledge to bee-culture it is well enough.

A. J. SMITH.

Ukiah, California, Sept. 17, 1871.

[For the American Bee Journal.]

Report and Suggestion.

The past season has been rather a poor one, for honey, in this vicinity, owing to a cold wet spring and a dry summer. Forty-two colonies, wintered without loss, in large Langstroth hives, on their summer stands, with honey-boards replaced by cotton batting comforters, gave me only eight swarms (two of which flew away in my absence) and about nine hundred and fifty 950) pounds of surplus honey—two hundred and twenty-five pounds of which was taken by the extractor.

The new swarms were each supplied with one or more frames of sealed honey, taken from the old colonies; and now the forty-eight stocks are in good condition for wintering.—With my present plan for wintering, I have no more fear of losing a colony in winter, than I have of losing one in summer. I have not lost a colony the three past winters.

To prevent robbing, keep the entrance to all weak colonies open only half an inch, till they get strong. Strengthen them up as rapidly as possible, with maturing brood from other colonies. I have had colonies queenless from March till June or July, without their being attacked by robbers, when the entrances were thus closed.

To cure robbing after it has vigorously begun, tack a piece of wire cloth over the front of the portico, and leave it until the bees have nearly done flying at night. Then remove it, allowing the robbers to leave, and the outside members of the robbed colony to re-enter. Replace the wire cloth, if there is fear of the robbing being continued the next day. Give the robbed colony a frame of brood and adhering bees, if it has no queen. If it has a queen, cage her for three days, and give brood and bees, as before.

R. BICKFORD.

Seneca Falls, N. Y., Nov. 1, 1871.

[For the American Bee Journal.]

Report from New Boston, Illinois.

We have sixty Thomas hives; from which we had taken three thousand (3,000) pounds of honey, making an average of fifty (50) pounds to the hive.

Our best hive yielded 175 lbs. Our four best averaged 133½ lbs.; and our fourteen best averaged 94 lbs.

Our honey slinger, made of oak, does its work perfectly, and has not soured, as feared by some, while using it two seasons.

In shipping honey we have concluded that the only safe way is to accompany it and *know to whom* you sell. Nearly a year ago we expressed 590 lbs. to A. F. Moon, Paw Paw, Michigan. It was received somewhat damaged, and sold for us on commission, but we have not yet received the first cent from him.

Paying dear for a lesson, we sent to C. O. Perrine a trial keg of honey, after receiving his price, viz.: from 16 to 18 cents for slung honey, for which we received a trifle over ten cents per pound—saying that it was one-third water. The same honey, drawn from the same barrel, is being used by us and neighbors, and called thick white honey.

J. P. Fortune, of Bloomfield, Iowa, writes us: "I sent one barrel to C. O. Perrine, which has been lost, or at least it never reached its destination."

Yours, for a sweet living,

PALMER BROS.

New Boston, Ills., Oct. 4, 1871.

[For the American Bee Journal.]

Report from Le Roy, Illinois.

MR. EDITOR:—I thought it might not be uninteresting to your numerous readers, whilst sending you two dollars to pay for the Journal (which you have been good enough to send me in advance of payment, if I would also send a few notes and observations on the past season.

Bluebirds made their first appearance here on the 4th of March, and robins on the 6th. On the 8th, I set twelve stocks of bees out of the cellar. On the 14th, one stock was robbed. On the 16th, bees gathered pollen from witch hazel. On the 7th of April, bees gathered the first honey from the yellow willow. On the 9th, came the first cherry bloom. On the 10th, bees carried in rye-flour, and the first wren was seen. On the 14th, transferred two stocks, one of which had no queen, but a fertile worker. I gave it a queen from another stock, and they have done well.

The early spring opened finely for bees, until they raised so large a quantity of brood, that, had it not been for very high cold winds during all the time of the blooming of the fruit trees, they certainly would have done well; but their large quantity of brood proved their misfortune. Many of the negligent beekeepers' bees starved out and ran off; and I may class myself with the number; for one of my stocks, finding that they could carry all the honey they had, took it and departed, leaving considerable brood. Thereby hangs a tale. On the third day, my runaway bees returned, bringing with them another swarm. After killing the black queen of this accompanying swarm, I put all of them into the hive which the deserters had left, fed them, and took care of them till they could take care of themselves; and they have since done very well. Here, methinks, I hear some one ask, how I knew that it was my runaway swarm? I knew it, because I have the only Italian bees within ten or fifteen miles of this place; and they had a beautiful Italian queen, whose progeny was hybrid.

Many of the starved out bees came to my house. They seemed to be aware that I knew their wants, and would take care of them. Some would settle, as in regular swarming; and when such had a good-looking queen and a large number of bees, I would take care of them; giving them some empty comb, and feeding them. They have done well in every case. Others that came and would not settle, gave me a good deal of trouble, and injured my bees very much. They would force themselves into every hive in my apiary, seeming to think, as it was certain death to remain out it could but be death to enter. This kept up such a terrible disturbance and war among my bees, that I could scarcely go among them. I placed cotton balls, saturated with kerosene and camphor gum, at the mouth or entrance of my hives, but all did no good; and when they took to stinging me, I abandoned them to their fate.

About May 10th, bees began to gather considerable honey, and again raised brood. The white clover came in bloom about the 20th, and by the first of June, they were ready and had made preparations to swarm; but owing to the bad weather, very few swarms issued. Owing to the excessive drouth, the white clover blossoms, and all other sources of honey, were cut off about the 25th of June; and robbing became the order of the day among bees. As in the spring, the colonies having a large quantity of brood and large stocks of bees, which all had to live off the then accumulated stores, they became pretty destitute by the time the buckwheat came in, and so weak in numbers when it did come, that we got very little or no surplus honey. Yet our stocks generally are in good condition to go into winter quarters.

I have transferred bees in every week since the middle of April (except in the month of July) to the third week in October. I have lost none, and all have done well.

I have used several kinds of movable frame hives, but I like one of my own improving (on which there is no patent) better than any that I have yet seen or used. There is no patent on it, except on the frames, and for those I give Mr. Langstroth credit. It is a plain, side-opening box, with movable bottom and top, so that I can use one, two, three, or more, for one swarm of bees, if I wish to do so. But as this article has already become too long, I will close. I don't know when the time commenced with my Journal, but please do not let it end.

A. T. BISHOP.

Le Roy, Illinois, Nov. 9, 1871.

[For the American Bee Journal.]

A Moan from Maine.

DEAR JOURNAL:—I always dislike sending a bad report from Maine, not only on account of its discouraging influence on bee-culture, but for the fact that it is not pleasant to recount one's own misfortunes. Yet, justice requires a faithful record; therefore I send you a brief retrospective view of "bee-ism" in Maine for 1871.

Thanks to the fall pasturage of 1870, the bees wintered well, and came through to the warm days in April in fine condition. Then the season promised most auspiciously; but the cold and dreary days of May more than counterbalanced those favorable conditions, and down went our sprits correspondingly. Still we could not believe that we were to have four poor seasons in succession, and accordingly braced up our courage and commenced stimulating, that our hives might be full of workers for the time of the fruit blossoms. Never have we witnessed a more profuse display of these blossoms; but they came and vanished like a beautiful vision, and the yield of honey was very light. Therefore we were obliged to continue stimulating till the white clover blossomed, which was unusually late, and of short duration; the drought most effectually dried it up, after yielding moderately for about ten days. Since July 10th, we have not been able to discover that our bees have gathered a particle of honey; consequently stocks are sadly reduced in bees and stores.

But few hives have honey enough to winter them, while hundreds are now actually starving. We have seen many hives that contained from twenty to forty pounds, each, of honey in May, with from one to five pounds only in October. Nothing but liberal and persistent feeding can save such stocks; and how few comparatively will do this? Hence we predict for the bee-keepers of Penobscot valley, and some other sections of our State, a greater loss of bees this year, than they have experienced for twenty-five years, with possibly the exception of 1865. It is true that strong stocks in favored localities, have filled their hives and stored some surplus; but these cases are the exceptions; and the frequent ominous words of our better half—"The sugar barrel is nearly empty! Oh, those bees do use it at a fearful rate!" continually reminds us of the almost unparalleled scarcity of honey throughout the entire season of 1871, and how ruthlessly the bright fantastic air castles of visionary beekeepers have been dispersed, and instead of revelling in liquid sweets, as Gallup says, "to our eyes," we have the cold satisfaction of purchasing barrel after barrel of sugar, to save the little pets from starvation.

By uniting our weak stocks and feeding up to the required standard, we have our bees now in fair condition for winter, and shall look forward to next year's operations with increased interest and hopefulness.

Many beekeepers complain that in the process of uniting, their bees invariably fight until large numbers are killed. To all such we would recommend the following plan: Smoke both stocks and remove one queen, and if the bees are flying freely gradually move the hives towards each other, say a foot or so each day, until they are side by side, which will generally require two or three days. Select a cool day, and after smoking them thoroughly, remove the frames with the adhering bees from both hives, and replace them alternately in the hive designed for them—selecting the full frames, and being careful to secure a good supply of pollen or bee-bread. Set the hive in the centre of the space that was occupied by the *two* hives, and feed with honey or sugar syrup for a few days. The smoke and nursing up creates so much confusion among the bees that they are quite willing to accept the situation without resorting to a fight.

GEO. S. SILSBY.

Wintersport, Me., Oct. 25, 1871.

[For the American Bee Journal.]

First Report, from a Beginner.

The September No. of the Journal, replete as its predecessors have ever been with much that is requisite to guide the apiarian bark, has been received, and contents as usual carefully perused. I am sincere in asserting that each and every number is worth, to me at least, the price of a year's subscription.

Impaired health, for want of proper exercise, compelling me to abandon the tripod, quill and scissors, I have decided to engage in apiculture. As other duties required my attention the present season, I have deferred engaging, to any extent, in the business, until next spring, when I desire to start with a reasonable number; but as I have managed six stocks the present season, I must report success.

Last April I took from my father's apiary of fifteen stands kept in box hives (which averaged him for many years from six to eight pounds of box honey to the hive, and a few swarms each season,) six stands and transferred them into movable comb hives. One of the six, a second swarm that barely came through the winter, I put in a double story hive, each story of which contains about 2100 cubic inches, and each holding ten frames. By close economy I got six frames of comb containing some brood and two or three pounds of honey. These with four empty ones were placed below and the remainder above. The four were speedily filled, but as the bees manifested no desire to begin operations above, I raised two frames from the brood chamber and placed them above, filling their places with empty ones. They were at once filled, and by the 10th of August the remaining eight were also filled. These frames weigh about ten pounds each, making a hundred pounds of honey and comb, besides the four empty frames filled below. This result was attained without spring stimulation, or anything of the kind. What the result would have been had this stock been populous and stimulated in early spring, we can only conjecture.

The other five stocks, one half more populous than the one just mentioned, yielded about thirty pounds in boxes to the hive, besides filling three empty frames below. My neighbor who "trusts to luck," has had neither surplus honey nor swarms, and considers this the poorest year in twenty for bees.

Hoping that my success may encourage the efforts of our *enlightened* beekeeping brethren throughout the land, and that the shadows of Novice and a host of others whose lights shine from under a beehive instead of a "bushel," may never grow less, I respectfully subscribe myself

RUSTICUS.

Canaanville, Ohio, Oct. 11, 1871.

Effects of a Bee Sting.

At Highgate, (Vt.) the other day, Mrs. Kingsley Steinhauer was set upon by a swarm of bees and nearly stung to death; she lay some time as if dead, and then her whole flesh became purple, as though mortified. She is now recovering,—*Boston Journal*, Sept. 4, 1871.

MR. GOFF disturbed a swarm of bumble-bees while burying out West, and came near having a burying of his own. The bees stung his neck, and his throat swelled so that the whole family had to take turns feeding him soup with a squirt-gun.

THE AMERICAN BEE JOURNAL.

Washington, December, 1871.

☞ We need copies of the first number of the current volume of the Journal (July, 1871), and will pay twenty cents each for them, till our want is supplied, to such subscribers as do not file their papers and will send them to us.

☞ We regret to learn that on account of the editor's ill health, the publication of the next volume of the "ANNALS OF BEE-CULTURE" will be delayed till the spring of 1872. Heretofore this work was issued in the fall, which is not thought to be as suitable a time as that now proposed, and the occasion will be availed of to make the desired change.

☞ Two years ago we suggested the addition of glycerine to sugar syrup as a bee feed, to prevent candying. We found it satisfactory on trial, and several correspondents used it with advantage. Adding half an ounce or one ounce of glycerine to a pint of the syrup while yet warm makes a suitable mixture, though a larger proportion of the former may be employed where it can be procured cheap enough to make it an object. Pure inodorous glycerine is itself an excellent occasional bee feed, but is commonly too high in price for economical use; nor should we advise it to be used exclusively, if that were not an objection. We have never tried cream of tartar to prevent candying, and incline to doubt its availability for that purpose.

It is commonly supposed that only since the introduction of movable comb hives has it been ascertained that young bees in vigorous colonies, remain within their hives eight or ten days after being hatched, engaged in nursing, comb building, &c. But this is an erroneous impression. Lucas, in his "*Introduction to Practical Bee-culture*," written in 1818, and published at Prague in 1820, states it distinctly as a fact then well known, and confirmed by observation, that "young bees do not show themselves outside of their hives till the ninth day after their birth, when, if the day is fair, they join in the general jubilation of the colony, and thenceforward participate in the out-door labors of the workers." Lucas probably used an observing hive, though he nowhere expressly states that he did.

In a late number of the Bienenzeitung a correspondent denies the correctness of the general opinion that queen bees will, under no circumstances, employ their stings, except against their peers or rival queens. He states that when properly excited they will sting like other bees, though the same causes or treatment will not produce in them the requisite excitement. They will bear much teasing and pretty rough handling, without showing symptoms of irritation; and to induce them to sting some special manipulations, not easily described, seem to be necessary—such as threaten to endanger life. The correspondent, Mr. Tittel, of Freidorf, says he received his first sting from a queen bee on the 31st of May, 1869; was stung by another on the 14th of June; and by a third on June 18th. On the 23d of June, 1870, he was stung successively by six queens; on the forenoon of the 28th, twice by the same queen, and in the afternoon repeatedly by another. And in thei nterval between that date and the 8th of October following, he managed to get himself stung by queens more than twenty times.—The stinging, he states, produced very little pain and scarcely any swelling. The sting was never retained in the wound; and in no instance did it penetrate deeper than one-third its length.

A Mr. Gindley had previously reported in the Bienenzeitung for 1866, that he had been stung by a queen bee. Though he felt a slight pain, no swelling was produced.

The Rev. Mr. Kleine, of Hanover, made numerous efforts to cause a queen to sting him; but was successful only once.

☞ The following communication reached us so late that we have little room left for remarks. The bees accompanying it were crushed in the mail to a shapeless mass, and no offensive odor was perceptible. As in this case the bees died in their hive, the disease, whatever it is, seems to differ materially from that prevalent in several of the Western States in 1868. In every instance then, we think, the bees deserted their hives, usually leaving considerable stores of honey. The honey of the hive in question should be examined, as it may possibly contain some noxious principle fatal to the bees that gathered it.—Honey gathered from fir trees has been known to be very destructive to bees, some large apiaries having been ruined by it.

What is it?

About a week since I noticed an unusual stir about the entrance of one of my strong hybrid stocks. At first glance I suspected robbery, but more minute observation showed there were no robbers about, as the ejected bees were evidently of the same family. For the past three days, bees have been compelled to remain in-doors, as the mercury is too low to permit flying. This morning I visited the hive again and found a fearful quantity of dead bees on the bottom board and about the entrance. I cannot detect any symptoms of dysentery. "*What is it?*

We have had a dry season this year, and several late honey-dews. My impression is that this honey-dew has something to do with it.—Let us have the opinion of some of our experienced apiarians. The hive—a two-story Langstroth—contains a hundred pounds of honey. I have forty-nine colonies besides this one, in my home apiary, which as yet present no symptoms of disease.

W. D. MANSFIELD.

Canaanville, Ohio, Nov. 17, 1871.

CORRESPONDENCE OF THE BEE JOURNAL.

Mount Florence, Kansas, Oct. 16, 1871.—I cannot do without your invaluable Journal. You can count me on your list as a constant subscriber.—F. Grubbe.

Lewisburg, Pa., Oct. 27.—I think the past season hereabout has been pretty good for surplus honey, but not at all so for the multiplication of swarms.

I any of your correspondents give information as to the storing of extracted honey in wooden casks, showing what material is best, I wish you would publish it. I should suppose that most woods would impart their flavor.—G. R. Bliss.

Ottawa, Ills., Oct. 28.—As I have kept bees for fifteen years, I thought, as a matter of course, I knew something extra about them; but happening to visit one of my neighbors, who keeps bees, I was somewhat surprised to see how much better his were doing than mine. On inquiring of him how he managed them, he said, in the first place, he took the American Bee Journal, and learned all he could from that, and then his own experience and common sense filled up the balance. I *borrowed* the Journal, and bought some works on bees, and soon found, that if I had never had bees, I should have been better prepared to enter on the business than now. I found I knew nothing really and scientifically about them. It was too late to get my swarms into movable frame hives, which I find are the great desideratum. I have twenty seven colonies, fifteen of which made about three hundred (300) pounds of honey, off of buckwheat blossoms. I shall sow four acres of Alsike clover next spring, and sow buckwheat twice, about the middle of June and July. I have bought twenty-five more colonies, some of them weak. I shall unite the weak ones, as an experiment, and give the result. I enclose two dollars, a year's subscription for the Journal.—L. Soule.

Ridgefield, Conn., Oct. 28.—Bees have done well here the past season, mine having averaged over fifty pounds of surplus honey, per stock. Italians again showing their superiority as honey-gatherers. I have lots of bee matters to talk about, but will defer it until I get more time.—S. W. Stevens.

Herman, Me.—Bees have not done anything in this section for the past two years. Last year I had ten stocks, and did not get one swarm. This year I had fifteen, and got two swarms, and have to feed a part of my bees to winter.—J. Allen.

Girard, Pa., Oct. 30.—I notice that Adam Grimm seems to practice natural swarming. Will he please tell us if he considers that preferable to artificial? An opinion from one so successful as he has been with bees, cannot but be of great benefit. My bees have done well for the last two years, having doubled with each year. I have now seventy-five colonies; am using the Beebe hive altogether, as I consider it the best movable frame hive I have tried.—A. Battles.

Peoria, Ills., Nov. 1.—We have a very fair season for bees in this part of Illinois, though the amount of surplus honey is not so great as during some seasons, owing to the fact that the bees came through the winter in great poverty, and consequently spent all the early part of the season in providing for and rearing their young.—W. T. Green.

Chinquacensey, Canada, Nov. 6.—Bees have done very well this year. They gathered nearly all their surplus honey from the basswood blossoms, but have gathered none since.—J. Pickering.

Hopkinsville, Ky., Nov. 6.—This has been a very good honey season; and if I could spare the time, I could make it profitable to keep bees. I have about seventy stocks on hand, and they are in good condition to winter. I would like to engage a reliable young man for another year, to take charge of my apiary. Can such be had? I will give a portion of the proceeds, or an interest in the whole stock. This is a fine location for an apiary. The Evansville, H. & Nashville railroad passing through our place. I want some one who *is willing to work*.—G. B. Long.

Oquawka, Ills., Nov. 8.—Bees that have had care, have done well here. One stock of Italians gave me 165¾ lbs. cap honey, and have 40 lbs. more in their hive now than they had in the spring. Old fogy's bees have done very poorly—no swarms, no honey, but plenty of moth. He don't take the "Journal."—C. W. Green.

Aurora, Ills., Nov. 12.—I have forty-two colonies of bees, some pure Italians, some hybrids, and some native blacks, all in good condition for wintering. The first part of the season here was excellent, but after July our bees could do very little. I have different works on bee-keeping, but find your valuable Journal comes as handy as a little pet.—J. Divekey.

Monmouth, Ills., Nov, 13.—The season here, taking it through, has been a good one for honey. Most stocks in this section have too much honey and too few bees for wintering well. But very few bee-keepers in this county have yet begun to use the movable comb hive. On the 9th of this month, I saw bees carrying pollen, which I suppose was gathered from sweet clover. We have had several nights of freezing weather.—T. G. McGaw.

[For the American Bee Journal.]

A Report from Ontario, Canada.

Mr. Editor:—Will you allow me to inflict upon you some bee news from these parts. I commenced bee-keeping four years ago, having at that time been afflicted with a very bad (or good) attack of "bee on the brain," I thought that I would begin with one hive and the Bee Journal; but owing to natural stupidity, or something else, my visions of immediate wealth took a backward stride; yet I gained in knowledge what I lost in money. By the way, Mr. Editor, let me here remark that some people appear to acquire knowledge at a remarkably rapid rate. For instance, I have a neighbor (and I see by the Journal that other localities are troubled in the same way) who has had bees for one season, and could put Gallup or Novice, or any of the greater lights to the blush in five minutes, by his superior knowledge and experience.

These last two years I have done very well, as I have increased my stock from four hives to twenty-three. I thought to control swarming by getting ahead of some of my colonies this year. Accordingly on the 24th of May I made two artificial swarms. But this seemed to be only an incentive to redoubled exertion on the part of the little rascals, as one of the swarms cast three swarms and gave me forty-two pounds of surplus; and the old hive cast one very heavy swarm, and gave me twenty-three pounds of surplus.

The other hive which I divided, did very near

as well—whereas the rest of my hives did not do so well, leaving aside the artificial swarms.

This, Mr. Editor, I think was doing pretty well for this part of the country, considering the operator and the season. This has been a very poor season, during the first and last part; but I believe I owe part of my success to stimulative feeding in the spring. The last half of June and the first half of July was the only good time for bees here this season. I intend to go in for honey next season, if all goes well this winter. So tell Novice to be very careful, or this frozen region will be after him with a sharp stick.

Please, Mr. Editor, if it is not presuming, I should like to be classed among your *life* members for *our* Journal; for as long as I can raise the needful I must have the Journal, as I do not see how any one can keep bees without it. By the way, Mr. Editor, please let me know if I can get the first two volumes, and what they will cost.

As you must be getting bored almost to death, I had better stop. But first I should like to shake hands all around, and HURRAH for the old stand-by, the AMERICAN BEE JOURNAL. Yours, bee-nightedly,

GEO. T. BURGESS.

Lucknow, Ontario.

[For the American Bee Journal.]

Bees in 1871.

My field is two miles east of Albany city, in North Greenbush, though Albany is my post-office. My field for honey is but an ordinary one, and the season less favorable than the last, or an increase in the number of swarms required a larger field. My neighbor, not one hundred rods distant, with one colony and one new swarm, had no surplus. Another bee man three miles off, with eleven colonies, had less than one hundred pounds of surplus from them all. His bees did the best of any I have heard of in the old swarming hives in this vicinity.

I have, with my new swarm, thirty colonies; but the unfavorable season and limited field have so shortened my surplus that I got but about half a ton from the thirty colonies. The colony that gave me two hundred (200) pounds last season, gave me but one hundred and forty-three (143) pounds this season. This was rather a disappointment to me, as I had hoped an improvement upon last season. I had last season expressed, in some communication, the hope of being able to do better than two hundred pounds to one colony, and our agricultural society had offered a premium of twenty dollars for the largest amount of honey from one swarm. This season friend Quinby had the hive that gave two hundred (200) pounds, and mine gave but one hundred and forty-three (143) pounds. Still there were some alleviating circumstances.

1. I flatter myself that St. Johnsville gives a much better field for surplus honey than my bees have access to.

2. That though Mr. Quinby took the highest premium, he had to use my patent to accomplish it. Duty to others may require me to say so much.

My most successful colony is one of ten that I purchased in 1867, for Italian bees, of a neighbor some three or four miles from my residence. Some were more strongly marked than others, and probably all of them were hybrids. In the five seasons it has cast no swarm, and I regard it as the best colony I have ever had or ever seen. Is there any convenient way to secure new stocks from that colony, unmixed with other strains? If the stock yard, the breed of horses, the stye, the flock, and all the different beasts or fowls of the farmer may be improved indefinitely, why may not the apiarian's stock be benefited by following the same course? and what would be the easiest and safest course to adopt to try experiments to this end? An answer from the editor of the American Bee Journal, or of distinguished apiarians who are familiar with every rope in the beekeepers' craft, would be very gratifying to one who is too far advanced in life to make many experiments in the business, and too young in the apiculturists' business to know much of their management.

The colony is in a hive of my latest patent—"Hazen's Eureka Hive," with bars instead of frames.

I know not but the thought is a visionary one, and the object unattainable; but if our business may be greatly advanced and its profits increased largely by the introduction of queens from a distant country, may we not improve our stock by securing our new stocks by our best old stocks? The colony has had its breeding apartment in use five seasons, and the comb is of course somewhat darkened and old. Would it answer to confine the colony another season to the breeding apartment and thus secure an early swarm, and then remove the brood combs to as many nucleus hives as there were queen cells in the hive, giving one cell to each, and then remove the whole to a distance from other bees, to secure, at the issue of the queens, the service of the drones for the queens, to secure the purity of all the stocks, or will this be unnecessary?

I have been interested and instructed in the pursuit of my business by your Journal, and through it have formed something of acquaintance with numbers of able men in the business, of whom I shall have pleasing remembrance what little time memory holds its seat.

With best wishes for your success, and the success of your useful Journal.

I am yours respectfully,

JASPER HAZEN.

Albany, N. Y.

[For the American Bee Journal.]

Letter from Kansas.

DEAR READER:—It is not often that we will occupy space in the Journal. Occasionally we like to have our say. Suppose that we do hit some of our "old bee writers," what of it? They have been hitting others; and to have a little conceit knocked out of them, once in awhile,

may do good. We would judge that some of them fancy all beekeepers in the country are looking up to them as teachers; when the fact is they have told us long ago nearly all they know about beekeeping, and their articles now are chiefly speculation and theory, putting forth ofttimes some new fangled notion not even tested by themselves. And they thus keep a little lot of beginners fooling away their time, experimenting on those tricks that are vain.

As to Kansas: the harvest is past, the summer is ended, and the bees are all right. The season has been a very good one, also up to the 8th of June the bees nearly starved. From that time till the first of August there was just about enough honey to keep them breeding well and make the necessary increase.

The honey harvest closed this year about the 15th of September, although in some years it continues a month longer. As this was our first experiment with the Extractor, of course we are away behind those that have had more experience. Even Katie Grimm has beat us so bad that we are almost ashamed to tell how little we were able to do. Three hundred and thirty (330) pounds was our best day's work—which was on the 9th of September. But by referring to the Journal, we see that on the 15th of July, Miss Katie extracted 2½ barrels, or nine hundred and twenty-five (925) pounds. Our surplus amounted to one hundred (100) pounds to each stock, counting the increase.

We have never told you what kind of hive we are using, nor what a cheap honey extractor we have got. We are afraid to do so, lest some of you would want to give us a dollar for a description. Our hive suits us very well, and we are going to let every body else use just such hives as please them best.

Our main difficulty heretofore was in getting the combs straight in the frames. This season, however, we hit on a comb guide that works to a charm ("Oh, how pleased was I!"). But as there has been very little said on the subject of comb guides since we have been a reader of the Journal, we are not certain that we have not hit on somebody's patent, and have after all nothing but what beekeepers have been using for years. However, if there is any one that is in trouble about getting straight combs, we will describe our guide in a future number of the Journal.* Any one can make it, and it cost but a trifle. As far as tested, it don't fail once in a hundred times. Besides, we have our bees make use of our surplus wax in comb building. How is that, Mr. Walter, for a "wild country?" Don't you think the Orchard beeman would like to know how to do that? By the way, your apology for him was rather lame. It would have been better if you had said he wanted to see whether any reader of the Journal was foolish enough to send him a dollar. We think it doubtful whether there was. There was one, however, that sent us five cents, and we don't think he would have done it, except for the Twining "six secrets," to use in connection with the Gallup hive. Here is his letter in the original Ms., only with the name and date cut off. The orthography is a little amusing, and somewhat peculiar.

"Mr. Noah Cameron, Dear Sir, you will find enclosed 5 cents, for whitch pleese send me Gallup's discriptions for makeing Beehives and the twinning Six Secretes for handling and manageing Bees.
and except my kindest thanks for the Same.
Yours truly,
——— ———"

We will guarantee that he has not taken the Journal long, or he would not have invested even five cents for the "secrets."

SMALL QUEENS.—What little experience we have had with such, is that they are of little account. Some will do first-rate for the first season; but most of them will fail to be good layers in the second, and some fail entirely. We deem it one of the most important things in beekeeping, to keep all your stocks supplied with good, vigorous, prolific queens. It makes more difference than it does what kind of a hive you use. And how to raise good queens is a subject pregnant with interest. Its importance cannot be overestimated. In our humble opinion it entirely eclipses the hive question.

There has been a deal said about natural and artificial queens; yet nothing conclusive has been established. There are many poor queens among both kinds. We are of the opinion that depends upon the attention that they get in the larvæ state. All small queens should be rejected. They are evidently not fully developed. They have had a scant supply of the royal food. There are also many poor queens among those that are of good size. Why this is so, we are unable to say. It may be the fault of bad breeding. All our queens should be under our eye, to see that they are physically perfect before they are allowed to take charge of a colony. It is a good point when your queen can fly immediately on her exit from the cell.

We had a hive this season in the same fix that one or two correspondents have previously mentioned. The brood was dying and there was scarcely any of it capped over. The conclusion we arrived at was that the bees had swarmed at a time when the hive was full of eggs and young larvæ: and that they had left too few bees for the work they had to do.

As this letter is long enough already, we will only add that at a meeting of the Kansas Beekeepers' Association there were three delegates elected to the National Convention to be held at Cleveland, in December. They are Dr. L. J. Dallas, William Barnes, and your correspondent.

N. CAMERON.

Lawrence, Kansas.

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*By all means let us have the description soon. Numbers are anxious to get a "sure thing" in time to arrange for next season's operations.—[ED.

IN A favorable season, the first fifteen days of the new-establishment of a swarm in a hive are employed in the most active labor. There is sometimes as much work done in that short time, as in all the rest of the season that is left for working.

Central Iowa Beekeepers' Association.

The time for holding the next meeting of this Association has been changed from the 9th of January, 1872, to *the 18th of January, 1872.*

The reason for changing the time of holding the meeting is on account of its conflicting with the annual meeting of the State Association.

We can probably make some arrangement for reduced fare on the railroads leading to Cedar Rapids.

Beekeepers remember the time and place, Cedar Rapids, January 18th, 1872.

GEO. W. BARCLAY, *Sec'y.*

Tipton, Iowa, Nov. 9, 1871.

Eastern Ohio Beekeepers' Association.

The Eastern Ohio Beekeepers' Association convened in Cadiz, Harrison county, Ohio, November 1st, 1871, and elected Isaac Thomas, President, and John White, Secretary.

After some general remarks on bee-culture, and the Association in particular, the following subjects were discussed: The natural history of bees, and history of beekeeping; can beekeeping be made profitable? Why do not bees prosper in this country as they once did? Are we overstocked? Are the sources of honey exhausted? Are our bees detoriated in quality? Can the pursuit be improved by the introduction of new varieties of bees? To what extent is it wise to practice artificial operations with bees? Bee-hives—what has been aimed at accomplishing by the different varieties of hive in use? What are the essentials of a good hive? What hives in use contain most of these advantages? Are patents wholly objectionable? The bee moth and diseases of bees. Importing, rearing and introduction of queens. Are bees a disadvantage to fruit growers?

The history of beekeeping, and especially the natural history or habits of bees, was explained at length by R. Wilkin. This subject was full of interest, and elicited the undivided attention of the audience, as he set forth many of the secret beauties of the instincts which so fascinate and entertain their keepers as to make them enthusiastic in their pursuit.

On the subject of beekeeping being made profitable, it was generally considered that although a large number of beekeepers, through inattention and want of knowledge, made failures, yet so many reports of great success made it evident that the pursuit can be made decidedly profitable; but this pursuit required the same amount of intelligent care as that of others, for there were cases given where the profits of from fifty to one hundred hives much exceeded the profits from an ordinary farm.

It was thought there was rarely a place where overstocking was a hindrance to success. It seemed probable that in the vicinity of Cadiz, where there are over six hundred colonies of bees within a radius of a little over two miles, that more honey would be obtained from each hive if they were fewer in number within the same bounds, although the difference between this place and places where but few are kept is scarcely perceptible. The land is high and rolling; white clover is almost the exclusive source of honey, and sheep are kept in greater abundance than in almost any other place in the Western States.

On new varieties of bees, many of the members, having kept Italians for years, spoke enthusiastically in their favor, a number of them stating that had they to depend on the common bee they would cease keeping bees, and by a unanimous vote of the Society, it was resolved that Italian bees are very far superior to the common variety.

Numerous remarks were made on the rearing and introduction of queens, for the purpose of changing the common variety of bees to the Italian kind.

Alfred Chapman, of West Va., and H. Filson, of Monongahela City, gave their experience in successfully making artificial swarms.

The evening session was occupied with an address on Entomology, or the science of insects, by Prof. A. D. Lee. It was made evident that a more thorough knowledge of this science would be eminently practical. As millions of dollars worth of agricultural products are annually destroyed in the United States by insects, a more thorough knowledge of them is necessary to prevent their ravages, and annoyance to persons.

The subject of bee hives was taken up. Most of the proposed improvements in hives were no improvements. Simplicity of style was considered important. Movable comb hives of some form were considered decidedly advantageous in the proper management of bees. Several hives were exhibited.

Mr. Wilkin spoke at length on the use and abuse of patents. Much deference was due to the claims of the Langstroth patent. No style of hive was a defence against the bee moth. The only remedy (and that was always certain) was the keeping of stocks always strong, and they will defend themselves.

The morning session of the second day was occupied with miscellaneous matters. The society was permanently organized by electing Isaac Thomas, President, Alfred Chapman, Vice President, R. Wilkin, Secretary, John White, Assistant Secretary, and Wm. Harrison, Jr., Treasurer.

Five delegates were appointed to attend the meeting of the National Beekeepers' Association, to be held at Cleveland on the 6th, 7th and 8th of December next.

The Peabody, also the Gray & Winder, melextractors were on exhibition, and a resolution passed by the society strongly recommending their use by beekeepers, as it was considered that in the use of this machine where the combs were emptied of their honey and returned to the hive to be refilled by the bees, thus saving the construction of combs which is perhaps half the labor, near double the amount of honey may be obtained in the purest condition without mixture of young bees and bee-bread. By many the extracted honey is taken in preference to the comb honey, except as a fancy dish.

On the injurious effects of bees to fruit growers, it was generally admitted that whilst they were some annoyance in handling fruit on which they were working, and consuming to some extent the juices of peaches and grapes which have been bursted open or punctured by other insects, (several experiments went to prove positively that

they did not and could not puncture the rind of fruit,) they were some advantage in the way of absorbing the juices that would run amongst and injure sound fruit, also intelligent gardeners and pomologists esteem bees of much value in making their products more abundant by fertilizing the bloom, which they do by carrying pollen from flower to flower in the act of gathering honey, and accordingly keep bees for that purpose.

The meeting, being very harmonious and interesting to many, was adjourned to meet in the same place on the first Wednesday of November next.

The delegates to the National Covention referred to in the above report are Jacob Cramblette of Franklin township, T. C. Belknap, of Short-creek township, R. Wilkin, of Cadiz, H. Filson, of Monongahela City, and Alfred Chapman, of New Cumberland, West Va.

Primitive Movable Comb System.

We hope that the following may prove as interesting to some of the other readers of the Bee Journal, as it did to ourselves, from its striking points of resemblance to our present improved system; particularly as regards *artificial swarming*, which operation seems so wonderful to the uninitiated.

It is taken from the *Penny Magazine*, 1838, page 400, and is headed—

Management of Bees on Mount Hymettus in Greece. By G. Wheeler, Esq. The hives in which they keep their bees are made of willows or osiers, fastened like our common dust baskets, wide at the top and narrow at the bottom, and plastered with clay or loam within and without. They are set the wide end upwards. The tops being covered with broad flat sticks, are also covered with clay at the top; and to secure them from the weather, they cover them with a tuft of straw, as we do. Along each of these stocks the bees fasten their combs, so that a comb may be taken out whole, without the least bruising, and with the greatest ease imaginable.

To increase them in the spring, that is in March or April until the beginning of May, they divide them, just separating the stocks in which the combs and bees are fastened from one another with a knife. So taking out the first comb and bees together, on each side, they put them into another basket in the same order as they were taken out, until they have equally divided them. After this, when they were both accommodated with sticks and plaster, they set the new baskets in place of the old one, and the old one in some new place. And all this they do in the middle of the day, at such time as the greatest part of the bees are abroad, who at their coming home, without much difficulty by this means divide themselves equally.

This device hinders them from swarming and flying away. In August, they take out their honey; which they do in the daytime also, while they are abroad—the bees being thereby, they say, disturbed least; at which time they take out the combs laden with honey as before: that is, beginning at each outside, and so taking away until they have left such a quantity of comb in the middle, as they judge will be sufficient to maintain the bees in winter; sweeping those bees that are on the combs they take out, into the basket again, and again cover it with new sticks and plaster.

J. Cheston Worthington.

Howard Co., Md., Oct. 30, 1871.

☞ The foregoing account of beehives and bee management in Greece, as inserted in the *Penny Magazine*, was taken from Wildman's "Account of Bees," published in London in 1768. Wildman copied it literally from "*A Journey into Greece, by George Wheeler, Esq., in company with Dr. Spon, of Lyons.*" It is on this statement that Dzierzon was charged with having appropriated a Grecian invention, and that he was the mere introducer of a device long previously in common use in the classic soil of Attica—a charge which was received with disgust by the German beekeepers, and of which the originators themselves speedily became ashamed. [Ed.

Death from a Bee Sting.

Mrs. Elizabeth Strange, wife of John L. Strange, a blacksmith doing business at the village of Linville, ten miles north of Rochelle, met with a sudden death on Thursday afternoon last, under very painful circumstances. She went into the garden to pick up some apples that had fallen from the trees, and while doing so she was stung by a honey bee from a hive near by. She was stung in the temple, and the pain was at once so great that she started for the house. Getting rapidly worse she lay down on the bed, and in not to exceed five minutes was dead. Her face and head immediately commenced swelling and turned black, and when buried the following day, she presented a frightful spectacle. Very fleshy naturally, her head had swelled to twice its natural size, and seemed to be a mass in the last stages of decomposition. She was a strong and rugged woman, and being stricken down when flush of health, by an instrument so unthought of, filled the neighborhood with a strange feeling of gloom.—*Rochelle* (Ill.) *Register.*

The goodness and flavor of honey depend on the fragrance of the plants from which the bees collect it; and hence it is that the honey of different places is held in different degrees of estimation. That which is made early in the year, is also preferred to what is collected in the latter part of the season. The color also depends on the color of the juices which the bees collect.

It is found that the larger the cakes of wax are, the better it keeps, and the higher price it brings. Also, that the more gently it has been boiled, the better it likewise is; for too hasty boiling renders it hard, and this increases the difficulty of bleaching it.

Great Bee Fight.

The Jackson (Tenn.) *Whig and Tribune* of a late date, relates the following interesting account of the resentment and courage of the honey bee :

"Captain Brown, of this city, recently robbed three hives, and Dr. West, a neighbor, robbed four. The bees, thus deprived of the fruits of their labor, became furious ; and uniting making an army of seven hives, they invaded the premises of Mr. Horace Bledsoe, and made a fierce attack on five of his hives. Bledsoe's bees were taken by surprise, and although outnumbered, fought for their homes with desperation. The battle lasted several hours, and four of Bledsoe's hives were literally destroyed. The invaders were finally repulsed, after being almost annihilated. The ground for yards around was black with dead bees. Mr. Bledsoe, although a serious loser, buried the dead warriors with the honors of war. Few of the invaders survived the battle, and from out of five of the defending hives, four were destroyed. It was the bloodiest bee battle on record hereaway, and deserves to be handed down to posterity."

☞It is much to be regretted that a more satisfactory account of this bee fight could not be given. It is not at all likely that the robbed parties combined or conspired *to avenge their maltreatment*, by assaulting some unoffending neighbors. There was probably a weak or queenless colony among those on Mr. Bledsoe's premises, and the discovery of that fact may have led to an attack that ended in a general foray.

SWAMMERDAM'S History of Bees was written in Dutch. He left it, together with his manuscripts, to his friend Mr. Thavenot. Mr. Thavenot died before he could perform the duty he owed to the memory of his friend in publishing his manuscripts. Mr. du Verney was so fortunate as to purchase these manuscripts, and by that means instrumental probably, in preserving them ; but being too much occupied in making new discoveries, even to publish his own, it is no wonder that he should not perform his promise of publishing those of another. At last the illustrious Bœrhaave, from his zeal for natural history, purchased them of Mr. du Verney, and engaged the learned Gobius to translate them into Latin, and to get them printed in Dutch and Latin, which he executed. They make two volumes in folio, entitled the BIBLE OF NATURE, the last of which was published in the year 1738. The History of Bees, which is contained in this work, answers the idea that Bœrhaave had raised of it.—*Reaumur.*

BEES proportion their work to the prolificness of the mother, or queen. Reaumur observed a hive, where they were at work on a few combs, and with little vigor. Whence this inactivity and dispiritedness so uncommon among bees? He saw the reason of it when he got into his hands the mother of the hive. She was small and pitiful in comparison with other mothers. The workers judged of her as she deserved.

AMONGST the ancients, Aristomachus observed and studied bees for the space of fifty-eight years ; and Philiscus retired into the woods, that he might have more convenient opportunities for observing them.

Amongst the moderns, Prince Frederic Cesi, Institutor and President of the Roman Academy of Sciences, towards the beginning of the seventeenth century, according to Fabius Columna, wrote a treaties upon bees, which he presented to Pope Urban VIII., and gave expectance of to the public, together with a description of the parts of this insect, drawn with assistance of the microscope, by Stelluti, of the same Academy. But it is not known what is become of that work.

A. GRAY,
Formerly of Reily, O.

1871.

J. W. WINDER,
Of Cincinnati, O.

IMPORTERS & BREEDERS OF

ITALIAN QUEEN BEES.

We would respectfully announce to our bee-keeping friends of America, that we have our arrangements completed to breed our Queens in Ludlow, Kentucky, opposite Cincinnati, isolated from all impure stock; which is a great advantage to our patrons as well as to ourselves.

Our Queens will be bred from imported stock, from the apiaries of Dr. Blumhoff, Prof. Mona, and Edward Uhle, of the highlands of Italy. All our Queens sent from the apiary are WARRANTED PURE, and satisfaction guaranteed.

Prices to suit the times.

April, 1871.

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GET THE BEST!!

GRAY'S HONEY SLINGER.

(*Patent applied for.*)

This melextractor is now perfected and offered to the bee-keepers of America for the first time. This machine is made of heavy tin, and well painted or japanned (except the wood work). It is very light, and can be sent by Express, without packing. It was exhibited for the first time at the Cincinnati Convention of Bee-keepers, and was very highly recommended by all the bee-keepers present.

April, 1871.

WAX EXTRACTORS.

We also manufacture this new apparatus for extracting Wax from old and worthless combs, which has now been fully tested. Mr. A. Grimm writes us that he has extracted two hundred and six (206) pounds of the nicest Wax he ever saw, although some of the comb was from ten to twelve years old; and that the bee-keepers of America owe Mr. Gray many thanks for importing and introducing so useful an invention. Every apiarian should have one of these Wax Extractors.

For further information of the above machines, send for descriptive circular, free.

Address,

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132 West Fourth Street,
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That beautiful literary journal, "HAPPY HOURS," whose publisher was the first to issue a paper to meet the public demand, after the awful fire, has been merged into the literary department of the PHENIX, which will embrace the contributions of more than sixty of the most popular writers of the day.

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Dec., 1871.